



**MEMO**  
MEMO OF TRANSMITTAL

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TO: Anthony Hicks and Erica Montefusco

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COMPANY: Green Plains Otter Tail, LLC

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FROM: Troy Enright

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DATE: 6/21/2011

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RE: Temporary Flat Storage – Insignificant Modification

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NOTES/COMMENTS:  
Anthony and Erica,

Attached you will find the MPCA forms and supporting documentation for the insignificant modification adding the temporary flat storage area. This modification results in insignificant emissions from this source. The emission estimates are based upon a 1,000,000 bushel capacity and a maximum filling rate of 15,000 bushels per hour.

Please keep a copy of this insignificant modification in your facility air permit file.

Thanks.

Troy

Insignificant Modification Forms



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-GI-01**

**Facility Information for Permit Changes**

Air Quality Permit Program

Doc Type: Permit Application

Instructions on Page 3

1a) AQ Facility ID No.: 11100077 1b) AQ File No.: 4297

2) Facility Name: Green Plains Otter Tail, LLC

**3) Facility Location**

Street Address: 24096 170th Ave.

City: Fergus Falls County: Otter Tail Zip code: 56537

**Note: If the facility is or will be located within the city limits of Minneapolis, attach a map showing the exact location.**

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip code: \_\_\_\_\_

**4) Corporate/Company Owner**

Name: Green Plains Renewable Energy, Inc.

Mailing Address: 9420 Underwood Avenue

City: Omaha State: NE Zip code: 68114

Owner Classification: ☒ Private ☐ Local Govt. ☐ State Govt. ☐ Federal Govt. ☐ Utility

**5) Corporate/Company Operator (if different than owner)**

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip code: \_\_\_\_\_

**6) Co-permittee (if applicable)**

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip code: \_\_\_\_\_

**7) Legally responsible official for this permit/facility**

Mr/Ms: Anthony Hicks Phone: 218-998-4301 x4320

Title: General Manager Fax: 218-998-4302

At (check one): ☐ Owner Address ☐ Operator Address ☒ Emission Facility Address

☐ Other (specify): \_\_\_\_\_

**8) Contact person for this permit**

Mr/Ms: Janet Aultman Phone: 218-998-4301 x. 4325

Title: Environmental Health Safety and Security Manager Fax: 218-998-4302

At (check one): ☐ Owner Address ☐ Operator Address ☒ Emission Facility Address

☐ Other (specify): \_\_\_\_\_

E-mail address: Janet.Aultman@gpreinc.com

9) All billings for annual fees should be addressed to:

Mr/Ms: Anthony Hicks

Phone: 218-998-4301

Title: General Manager

Fax: 218-998-4302

At (check one): ☐ Owner Address ☐ Operator Address ☐ Emission Facility Address

☐ Other (specify) \_\_\_\_\_

10) Standard Industrial Classification (SIC) Code and description for the facility:

Primary: 2869 / Fuel Ethanol Production

Secondary (if applicable): \_\_\_\_\_ / \_\_\_\_\_

Tertiary (if applicable): \_\_\_\_\_ / \_\_\_\_\_

11) Primary product produced (or activity performed) at the facility is:

Fuel ethanol

12) Facility is: ☒ Stationary ☐ Portable

13) (reserved for future use)

14) Is environmental review required (either an Environmental Assessment Worksheet (EAW) or an Environmental Impact Statement (EIS)) for this facility?

☒ No ☐ Yes – you may also be required to perform a state air toxics review for your facility. Please call 1-800-657-3864 or locally 651-296-6300.

15) Are you (or will you be, if this is a new facility) required to submit a Toxics Release Inventory (Form R) under SARA Title 313 for this facility? Contact the Minnesota Emergency Planning and Community Right-to-Know Act (EPCRA) Program for more information, at 651-201-7400.

☒ Yes – Answer Question 15a ☐ No – Go on to Question 16

15a) Are you required to submit a Pollution Prevention Plan Progress Report in accordance with Minn. Stat. § 115D.08?

☐ No ☒ Yes, and the most recently required progress report has been submitted  
☐ Yes, but a progress report has not been submitted because: (fill in reason below)

16) Is this facility within 50 miles of another state or the Canadian border?:

☐ Yes (specify which ones) \_\_\_\_\_ ☒ No

17) Are you proposing any alternative operating or emissions trading scenarios in this application? (see Minn. R. 7007.0800, subp. 10 and 11)

☒ No ☐ Yes - attach a description of your proposal, including a statement on how the proposal will meet all applicable requirements (specifically, please address any applicable New Source Review requirements - see Form CH-04).

18) Person preparing this permit application:

Mr. / Ms. Troy Enright

Title: Environmental Scientist

Phone: 612-215-6086

Fax: 612-347-6780

Date: 6/21/2011

E-mail address tdenright@nrg-llc.com





**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-15**

**SIP Changes and Permits**  
Air Quality Permit Program

1a) AQ Facility ID No.: 11100077 1b) AQ File No.: 4297  
2) Facility Name: Green Plains Otter Tail, LLC

**Section I**

I.1 Does your facility have source specific State Implementation Plan (SIP) conditions contained in a Part 70 permit or a federally enforceable state operating permit **or** has your facility been issued an Administrative Order (Order) to ensure compliance with a national ambient air quality standard (NAAQS)? (This would include permit conditions labeled "Title I condition: SIP for [pollutant] NAAQS"). If your facility is listed in Table 1 below, you have source specific SIP conditions.

☒ Yes. Check all applicable pollutants and continue with Section II.

- ☐ Sulfur Dioxide (SO<sub>2</sub>)  
☒ Particulate matter less than 10 microns (PM<sub>10</sub>)  
☐ Lead

☐ No. **Stop here**, and submit this form with your application for a permit amendment or operating permit reissuance.

**Section II**

II.1 Where are the SIP conditions that apply to your facility?

- ☒ In the current operating permit  
☐ In the Order  
☐ In both the current operating permit and the Order

II.2 This permit application is for

- ☐ Reissuance of the operating permit  
☒ An amendment to the current operating permit

Whether you are proposing changes through an application for a facility modification, or if you are submitting a reissuance application and there have been changes at your facility that are not included in the current operating permit or the Order, complete the rest of this form considering those changes as the 'proposed change.' If your facility is subject to the Order, Minnesota Pollution Control Agency (MPCA) will initiate a SIP revision to transfer the Title I conditions from the Order to the Permit.

II.3 Does the proposed change involve equipment or operating parameters that are subject to a Title I SIP condition in your permit or a requirement from your Order?

- ☐ Yes  
☒ No

II.4 Does the proposed change add an emission unit(s) or stack/vent that will emit the criteria pollutant(s) identified in Section I?

- ☐ Yes  
☒ No

II.5 Does the proposed change increase the emission rate of the criteria pollutant(s) at any of the existing emission points (emission unit, control equipment or stack/vent)?

- ☐ Yes  
☒ No

II.6 Does the proposed change increase the overall emission rate of that criteria pollutant at the facility?

- ☐ Yes  
☒ No

### Section III

Review the SIP modeling parameters for your facility. These are usually found in an appendix to your permit or in your Order. For the proposed change at your facility, check all that apply:

- ☒ Addition of new emission point(s) for the criteria pollutant
- ☐ Removal of existing emission point(s) for the criteria pollutant
- ☐ Change in one or more modeled stack/vent heights or diameter
  - ☐ Increase in stack height
  - ☐ Decrease in stack height
  - ☐ Increase in stack diameter
  - ☐ Decrease in stack diameter
- ☐ Change in modeled air flow rate(s)
  - ☐ Increase in air flow rate(s)
  - ☐ Decrease in air flow rate(s)
- ☒ Change in one or more modeled emission rates
  - ☒ Increase in emission rate(s)
  - ☐ Decrease in emission rate(s)
- ☐ Change in location of one or more emission points
- ☐ Change in exit point temperature
  - ☐ Increase in temperature
  - ☐ Decrease in temperature
- ☐ Change in building locations or dimensions
- ☐ Other \_\_\_\_\_
- ☐ No change to current modeling parameters.

If there are any changes to the modeling parameters, you will need to demonstrate that the plume dispersion characteristics of the criteria pollutant will be equivalent to or better than the dispersion characteristics modeled using the parameters included as noted in the appendix of your permit or in your Order. In many cases you will need to remodel to show attainment with the NAAQS. However, in some cases you may be able to provide a written justification for improved dispersion characteristics.

If you will need to do modeling, it is recommended that you check the MPCA website or contact MPCA staff for guidance on current SIP modeling. SIP modeling requirements may be different than modeling for other programs and may have changed since previous modeling was done for your facility. See the MPCA's on-line SIP and modeling information at <http://www.pca.state.mn.us/air/sip.html> and <http://www.pca.state.mn.us/air/modeling.html> for current contact information.

### Section IV

#### Will the proposed change require a SIP revision?

In general, a SIP revision is not required if you are making a change to the facility that does not increase, from any emission point, the emission rate of the criteria pollutant or alter equipment or parameters used as the basis for modeling of the criteria pollutant.

If you answered "Yes" to any of the questions in Section II or have identified changes to the modeling parameters for your facility in Section III, you will likely need a SIP revision for your project. If a SIP revision is required for a modification amendment, you must submit a **major** amendment application. If the proposed change includes an increase in emissions of the criteria pollutant or if it is new construction, the current Title I SIP conditions in your permit or the conditions in your Order for your facility must be followed until the SIP revision is approved by U.S. Environmental Protection Agency (EPA). If the proposed change will reduce emissions or will provide better modeled dispersion characteristics that change may proceed with MPCA and EPA approval.

When a SIP revision is part of your permit reissuance or amendment, approval of the reissuance or modification application will include more steps and take more time than the general process for a permit issuance. The SIP revision includes review and approval of the permit application by MPCA, including public notice of the permit. The SIP revision requires a public notice (which may occur concurrently with the permit notice of the draft/proposed permit); EPA generally does a preliminary review of the SIP revision at this time. There is an opportunity for interested parties to request a public meeting during the public notice period. After MPCA's public notice period ends for the draft/proposed permit, MPCA submits the SIP revision to EPA for a formal review and approval. Final approval of the SIP revision occurs when EPA publishes the revision as a final rule in the federal register.

**Table 1 Facilities with Source Specific SIP Conditions**

Area	Pollutant	Facility
Eagan	Lead	Gopher Resources Corporation
Rochester	PM <sub>10</sub>	Rochester Public Utilities <ul style="list-style-type: none"> <li>▪ Silver Lake</li> </ul>
	SO <sub>2</sub>	Rochester Public Utilities <ul style="list-style-type: none"> <li>▪ Cascade Creek</li> <li>▪ Silver Lake</li> </ul> Associated Milk Producers - Rochester Mayo – Franklin Heating Station IBM - Rochester Olmsted Waste to Energy Mayo – St. Mary's Hospital
Twin Cities 7-County Area	SO <sub>2</sub>	Federal Cartridge Company-Anoka Hoffman Enclosures Inc. Xcel Energy <ul style="list-style-type: none"> <li>▪ Inver Hills Generating Plant</li> <li>▪ Riverside Generating Plant</li> </ul> GAF Materials Corporation NRG - Minneapolis Energy Center Minneapolis LLC
Rosemount/Pine Bend	SO <sub>2</sub>	Flint Hills Resources LD – Pine Bend Refinery
St. Paul Park/Ashland	SO <sub>2</sub>	Marathon Petroleum Co LLC
St. Paul (Childs Road and Red Rock Road)	PM <sub>10</sub>	Aggregate Industries, Yard A Cenex Harvest States Coop- Elevator 2 Commercial Asphalt, Inc. Plant 905 Gerdau Ameristeel US Inc. – St. Paul Mill Great Western Dock and Terminal Lafarge North America (Red Rock and Childs Road Terminals) Met Council Wastewater Treatment Plant St. Paul Terminals



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-00**

**Project Screening**  
Air Quality Permit Program

AQ Facility ID No.: 11100077 AQ File No: 4297

Facility Name: Green Plains Otter Tail, LLC

**Instructions:** Fill out this form last after you've determined the type of permit you need.

Check all applicable boxes on this form that describe your proposed project and your facility.

**Applicable Analyses:**

- ☐ My project requires an Environmental Assessment Worksheet.  
Submitted to (who?): \_\_\_\_\_ on (date): \_\_\_\_\_
- ☐ My project requires an Environmental Impact Statement.  
Submitted to (who?): \_\_\_\_\_ on (date): \_\_\_\_\_
- ☐ My project requires a Prevention of Significant Deterioration (PSD) permit, utilizes the Plant-wide Applicability Limit requirements of 40 CFR § 52.21, and/or involves a Best Available Control Technology (BACT) Analysis (either a new analysis or revisions to previous permit conditions).
- ☐ My project involves a case-by-case Maximum Achievable Control Technology (MACT) determination under section 112(g)(2)(B) of the Clean Air Act Amendments of 1990 as described on form CH-07.
- ☐ My project involves a site-specific alternative monitoring request under 40 CFR § 60.13(i) or 40 CFR § 63.8(f).
- ☐ My project involves changes to limits or requirements that are identified as State Implementation Plan (SIP) requirements in my permit or Administrative Order. (Use Form CH-15 to determine this.)
- ☐ My project involves ambient air dispersion modeling for criteria pollutants.
- ☐ My project involves an Air Emissions Risk Analysis (AERA).  
Submitted to (who?): \_\_\_\_\_ on (date): \_\_\_\_\_
- ☐ Per the July 16, 2008, guidance on Greenhouse Gases (<http://www.pca.state.mn.us/publications/greenhousegas-memo0708.pdf>), my project requires a Greenhouse Gas Emissions Evaluation.  
Is the evaluation included with the permit application? ☐ Yes ☐ No
- ☐ My project requires at least one other media permit in addition to an air permit.  
\_\_\_\_\_ (list permits: e.g., NPDES permit).  
Application submitted to (who?): \_\_\_\_\_ on (date): \_\_\_\_\_
- ☒ None of the above

**Industry Sector:**

- ☐ Petroleum refining
- ☐ Pulp and/or paper mill
- ☐ Composite wood products (e.g., OSB)
- ☐ Metallic mining
- ☒ Non-beverage ethanol production
- ☐ Waste combustor
- ☐ Electric utility
- ☐ None of the above



## Minnesota Pollution Control Agency

520 LAFAYETTE ROAD ST. PAUL, MN 55155-4194

PERMIT CHANGE FORM **CH-01**

### CHANGE DESCRIPTION

(FORMERLY MOD-01 MODIFICATION DESCRIPTION)

6/30/05

Use Form CH-02 to determine if a permit amendment is required for your proposed change or modification. If an amendment is required, provide below a description of each physical and operational change, or proposed change to existing permit conditions, included in this application. This includes addition of new units, removal or replacement of existing units, or changes which may result in debottlenecking of emission units.

1a) AQ Facility ID No.: 11100077

1b) AQ File No. 4297

2) Facility Name.: Green Plains Otter Tail, LLC

3) Does your project involve construction or a physical or operational change to your facility?

☐ No. Go to question 5

☒ Yes. ☒ Construction or physical change ☐ Operational change

4) Do you need your permit issued by a certain date?

☐ No. Go to question 5

☐ Yes. Date: \_\_\_\_\_

Reason: \_\_\_\_\_

5) Description of proposed project

Green Plains Otter Tail, LLC is proposing to add a temporary bunker pile system for additional grain storage capacity during the harvest season. The bunker has a 1,000,000 bushel storage capacity and will be filled from incoming grain trucks via screw conveyer to a peak height not to exceed 36'. Filling is estimated to take approximately 70 hours (approximately 15,000 bu/hr). Following filling of the bunker, a tarp will be placed over the pile and will be ventilated via ten (10) fans. The bunker will be emptied as needed during the rest of the year.



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-02**

**Action Type Determination**

Air Quality Permit Program

*Doc Type: Permit Application*

**1a)** AQ Facility ID No.: 11100077

**1b)** AQ File No.: 4297

**2)** Facility Name: Green Plains Otter Tail, LLC

Answer the questions on this form, referring to and completing the additional forms as directed, to determine if a permit or amendment is required (and if so what type), or if a notification is required.

3. Does the proposed change or modification require a major amendment? Complete Form CH-03 and all forms referenced therein.
- ☐ Yes. Go to question 8.
- ☒ No. Go to question 4.
4. Does the entire proposed change or modification consist **only** of insignificant activities described in Minn. R. 7007.1300, subparts 2 and/or 3, or conditionally insignificant activities listed in Minn. R. 7008.4100 and/or Minn. R. 7008.4110?
- ☒ Yes. The proposed change qualifies as an insignificant modification. Use Form CH-12 to determine if notification to the MPCA is required. If notification is required, go to Form CH-14 to determine what must be submitted.
- ☐ No. Part of the project is not one of the listed insignificant activities listed in Minn. R. 7007.1300, subp. 2 and/or 3. Go to question 5.
5. Can the change be done through an administrative amendment? Use Form CH-08 to determine Yes or No.
- ☐ Yes. Go to Form CH-14 to determine what must be submitted.
- ☐ No. Go to question 6.
6. Can the change be made through the "contravening permit terms" provision? Use Form CH-09 to determine Yes or No.
- ☐ Yes. Go to Form CH-14 to determine what must be submitted.
- ☐ No. Go to question 7.
7. Calculate the emissions increase as described on Form CH-10. Is there an increase?
- ☐ Yes. Complete Form CH-10 to determine if a minor or moderate amendment is needed. If a minor or moderate amendment is needed, go to question 8. If the change qualifies as an insignificant modification, keep records and use Form CH-12 to determine if notification is required.
- ☐ No. Complete Form CH-12 to determine what notification or recordkeeping requirements apply.
8. Complete Form CH-11 to determine your status with regard to crossing permit thresholds, and indicate that status below.
- ☐ This change can be made through the permit amendment provisions of Minn. R. 7007.1450 or 7007.1500, using the forms indicated on Form CH-14.
- ☐ This change requires issuance of a Title V or State operating permit. Include a completed Total Facility Application.
9. Complete Form CH-13 to determine what state rules apply to the equipment you are adding or the changes you are proposing.
10. Complete Form CH-00, summarizing the category of change and industry type.





**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-03**

**Major Permit Amendment Determination**

Air Quality Permit Program

Doc Type: Permit Application

**Instructions on Page 3**

1a) AQ Facility ID No.: 11100077

1b) AQ File No. 4297

2) Facility Name: Green Plains Otter Tail, LLC

To answer the questions posed in this form, you will have to complete the additional forms referenced in the individual items.

This form refers to proposed **changes** and **modifications**. A "modification" as defined in Minn. R. 7007.0100, subp. 14, includes:

- A. any change that constitutes a title I modification ...; or
- B. any physical change or change in the method of operation of an emissions unit, emission facility, or stationary source that results in an increase in the emission of a regulated air pollutant.

A "change" is a change to permit terms or conditions, in the absence of a modification as described above.

3) Is the proposed change or modification a title I modification? It is if the answer to any of the following is "yes":

3a) Is the proposed change or modification subject to New Source Review? Use and submit Forms CH-04, and CH-04a or CH-04b, as applicable.

- ☐ Yes  
☒ No

3b) Is the proposed change or modification a modification or reconstruction as defined for New Source Performance Standards? Use and submit Form CH-05.

- ☐ Yes  
☒ No

3c) Is the proposed change or modification a hazardous air pollutant modification under Part 61 National Emission Standards for Hazardous Air Pollutants (NESHAPs)? Use and submit Form CH-06.

- ☐ Yes  
☒ No

3d) Is the proposed change or modification defined as construction or reconstruction under Part 63 NESHAPs? Use and submit Form CH-07.

- ☐ Yes  
☒ No

4) Does this modification change any permit conditions or amend existing permit requirements related to **monitoring, reporting, or recordkeeping** other than adding new requirements, eliminating the requirements if they are rendered meaningless because they apply to emissions that will no longer occur, or changing test methods if both the new and the old test methods are considered valid for the pollutant and source category (Minn. R. 7007.1500, subp. 1(A))?

- ☐ Yes. Use and submit Form CD-01 and/or CD-05 to document such requirements.  
☒ No

5) Does this modification establish or amend any **source-specific permit condition** that is required to be based on a case-by-case determination of an emissions limit or standard, an ambient impacts analysis, visibility, or increment analysis (e.g., a modeling-based limit, Best Available Control Technology (BACT), Maximum Achievable Control Technology (MACT), etc.) (Minn. R. 7007.1500, subp. 1(B))?

- ☐ Yes. Use and submit Form CD-01 and/or CD-05 to document such conditions.  
☒ No

- 6) Does this modification establish or amend any permit terms or conditions for which there is no underlying applicable requirement and that you have assumed to avoid an applicable requirement to which you would otherwise be subject? Such limits are usually synthetic minor limitations such as a limit on hours of operation. Please note that if you would like to add equipment under an existing emissions cap or limit, and the permit does not explicitly pre-authorize such additions, that is considered amending the limit or emissions cap. (Minn. R. 7007.1500, subp. 1(C)).
- ☐ Yes. Use and submit Form CD-01 and/or CD-05 to document such conditions.
- ☒ No
- 7) Does this modification establish, amend, renew, or distribute a **Plantwide Applicability Limit (PAL)** under 40 CFR § 52.21(aa)? (This is only available to existing major sources under New Source Review.)
- ☐ Yes. Use and submit Forms PAL-01 (and the forms referenced within PAL-01) and CD-01 to document conditions. (As of the date of this form, the PAL cover page (PAL-01) and the form for determination of a PAL (PAL-02) have been completed. The remaining forms for renewal, expiration allocation, and increasing a PAL, are not yet available.)
- ☒ No
- 8) Is this modification subject to classification as a **major permit amendment under any other agency rule**?
- ☐ Yes
- ☒ No
- 9) Does this modification seek to establish or amend a federally enforceable emission cap (such as a synthetic minor limit which limits hours of operation) which avoids classification as a part 70 source?
- ☐ Yes. Use and submit Form CD-01 and/or CD-05 to document conditions.
- ☒ No

**If you answered “Yes” to one or more of the above questions, a major permit amendment is required.**





**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-04**

**Determination of New Source Review Status**

Air Quality Permit Program

*Doc Type: Permit Application*

1a) AQ Facility ID No.: 11100077 1b) AQ File No.: 4297

2) Facility Name: Green Plains Otter Tail, LLC

3) Is your facility defined as one of the following types of facilities?

Some standard industrial classification (SIC) code(s) applying to specific categories are given in parentheses to assist you in classifying your facility. The SIC codes provided are not meant to be an exhaustive list of facilities included in the category.

- |   |   |
|---|---|
| • Coal Cleaning Plants-With Thermal Dryers  | • Kraft Pulp Mills (2611, 2621)   |
| • Portland Cement Plants (3241)   | • Primary Zinc Smelters (3339)  |
| • Iron and Steel Mills (3312)   | • Primary Aluminum Ore Reduction Plants (3334)                                    |
| • Primary Copper Smelters (3331)  | • Municipal Incinerators Capable of Charging More Than 50 Tons of Refuse per Day  |
| • Hydrofluoric Acid Plants (2819, 2899)   | • Sulfuric Acid Plants (2819)   |
| • Nitric Acid Plants (2873)   | • Petroleum Refineries (2911)   |
| • Lime Plants (3274)  | • Phosphate Rock Processing Plants (1475)   |
| • Coke Oven Batteries (3312)  | • Sulfur Recovery Plants (2819)   |
| • Carbon Black Plants (Furnace Process, 2895)   | • Primary Lead Smelters (3339)  |
| • Fuel Conversion Plants  | • Sintering Plants*   |
| • Secondary Metal Production Plants (334X)  | • Chemical Process Plants (28XX)  |
| • Fossil-Fuel Boilers (or combination thereof) totaling more than 250 MMBtu/hr heat input | • Petroleum Storage & Transfer Units, Total Storage Capacity over 300,000 Barrels |
| • Taconite Ore Processing Plants (1011)   | • Glass Fiber Processing Plants   |
| • Charcoal Production Plants (2819, 2861)   | • Fossil Fuel-Fired Steam Electric Plants of more than 250 MMBtu/hr heat input    |

*\* Processing of fine grain materials into coarser lumps (performed primarily on ores).*

☐ **Yes**, my facility is classified as one of the 28 sources listed above. A listed air emission source having a potential to emit (PTE) 100 tons per year (TPY) or more of any single regulated pollutant (except carbon dioxide equivalents (CO<sub>2</sub>e)) is considered a major stationary source. For sources classified as one of the 28 listed, fugitive emissions must be included in the PTE. **For item 4 of this form, and for Form CH-04b if applicable, a 100-TPY emissions threshold must be used for all regulated pollutants except CO<sub>2</sub>e; for CO<sub>2</sub>e, the threshold is 100,000 TPY.**

☒ **No**, my facility is not classified as one of the 28 sources listed above. An air emission source not classified as one of the 28 sources listed above and having the PTE 250 TPY or more of any single regulated pollutant (except CO<sub>2</sub>e) is considered a major stationary source. **For item 4 of this form, and for Form CH-04b if applicable, a 250-TPY emissions threshold must be used for all regulated pollutants except CO<sub>2</sub>e; for CO<sub>2</sub>e, the threshold is 100,000 TPY.**

4) Is the current federally enforceable PTE of your facility greater than or equal to the thresholds identified in question 3, making your facility a major stationary source?

☐ **Yes**. My facility is currently considered a major stationary source. Go to question 5.

☒ **No**. Go to question 7.

5) Is your facility currently covered by a permit that contains a Plantwide Applicability Limit ("actuals PAL") as defined at 40 CFR Section 52.21(aa)(2)(i) and (v)?

☐ **Yes**. Go to question 6.

☐ **No**. Go to question 7.

- 6) Are you able to continue to meet the emissions limits set by the Plantwide Applicability Limit after the project?
- ☐ **Yes.** NSR is not applicable to the proposed change/modification. You need not complete the remainder of this form. You must determine if an amendment is needed under Minn. R. 7007.1150 – 7007.1500.
- ☐ **No.** You must complete a BACT analysis for all major and significant emissions units at your source. If installation of BACT still does not allow you to install the emission unit and maintain compliance with your PAL, you may apply for an increase in your PAL. Please see the Minnesota Pollution Control Agency fact sheet on PALs at [www.pca.state.mn.us/air/permits/nsr](http://www.pca.state.mn.us/air/permits/nsr), or Form PAL-05 (*not yet available as of the date of this form*), for guidance on increasing a PAL. Do not complete the remainder of this form.
- 7) **Synthetic Minor Source:** Are you proposing new or revised federally enforceable limits such that the **entire facility (including the proposed modification)** will become or remain a minor source?
- ☐ **Yes.** Submit an application for a major amendment. Put proposed limits on CD-01 form. Do *not* complete CH-04a or CH-04b.
- ☒ **No.** If you answered “Yes” to question 4, go to Form CH-04a.  
If you answered “No” to question 4, go to Form CH-04b.



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-04b**

**Determination of Increases at Minor Sources**

Air Quality Permit Program

Doc Type: Permit Application

**Instructions on page 3**

1a) AQ Facility ID No.: 11100077 1b) AQ File No.: 4297

2) Facility Name: Green Plains Otter Tail, LLC

Use this Form to calculate emissions increases at existing sources which are minor New Source Review (NSR) sources. If the facility is a major source under NSR, use Form CH-04a.

- 3) Use Table 1 to document the emissions increase for individual units using the calculation method found in 40 CFR § 52.21(a). See instructions for calculating emissions increases. Make additional copies of Table 1 if more than four units are affected. Summarize the total increases for each pollutant in Table 2. Attach your calculations.

**Table 1**

	EU FS 007 <input checked="" type="checkbox"/> New <input type="checkbox"/> Replacement <input type="checkbox"/> Modified <input type="checkbox"/> Debottlenecked	EU _____ <input type="checkbox"/> New <input type="checkbox"/> Replacement <input type="checkbox"/> Modified <input type="checkbox"/> Debottlenecked	EU _____ <input type="checkbox"/> New <input type="checkbox"/> Replacement <input type="checkbox"/> Modified <input type="checkbox"/> Debottlenecked	EU _____ <input type="checkbox"/> New <input type="checkbox"/> Replacement <input type="checkbox"/> Modified <input type="checkbox"/> Debottlenecked	
Pollutant	Potential emissions (tpy)	Potential emissions (tpy)	Potential emissions (tpy)	Potential emissions (tpy)	Total (tpy)
PM	0.49				
PM <sub>10</sub> (including condensables)	0.13				
PM <sub>2.5</sub> (including condensables)	0.02				
NO <sub>x</sub>					
SO <sub>2</sub>					
CO					
Ozone (VOC)					
Lead					
Fluorides					
Sulfuric acid mist					
Total Reduced Sulfur including H <sub>2</sub> S					
Total Reduced Sulfur Compounds including H <sub>2</sub> S					
MWC Organics					
MWC Acid Gas					
MSW Landfill Gas					
Carbon dioxide equivalents (CO <sub>2</sub> e)					

**Table 2 - Summary**

Pollutant	Emissions from new, modified, or replacement units (from Table 1) (tpy)	Thresholds for minor sources ("No" to CH-04 question 2) (tpy)	
		Answered "Yes" to CH-04 question 1	Answered "No" to CH-04 question 1
PM	0.49	100	250
PM <sub>10</sub> (including condensables)	0.13	100	250
PM <sub>2.5</sub> (including condensables)	0.02	100	250
NO <sub>x</sub>		100	250
SO <sub>2</sub>		100	250
CO		100	250
Ozone (VOC)		100	250
Lead		100	250
Fluorides		100	250
Sulfuric acid mist		100	250
Total Reduced Sulfur including H <sub>2</sub> S		100	250
Total Reduced Sulfur Compounds including H <sub>2</sub> S		100	250
MWC Organics <sup>1</sup>		100	250
MWC Acid Gas <sup>2</sup>		100	250
MWC Metals <sup>3</sup>		100	250
MSW Landfill Gas		100	250
CO <sub>2</sub> e <sup>4</sup>		100,000	100,000

**Note 1:** MWC Organics means Municipal Waste Combustor Organics. These are defined as total tetra-thro-octa-chlorinated dibenzo-para-dioxins and dibenzofurans.

**Note 2:** MWC acid gases are measured as the sum of sulfur dioxide and hydrochloric acid.

**Note 3:** MWC Metals are measured as particulate matter.

**Note 4:** CO<sub>2</sub>e is calculated as a weighted aggregate of carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, using the gases' global warming potentials. See Form EC-17.



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-05**

**Applicability of NSPS**

Air Quality Permit Program

*Doc Type: Permit Application*

**Instructions on Page 3**

Complete this form to determine if the proposed change or modification results in new applicability of a New Source Performance Standard listed in Table 1.

**1a)** AQ Facility ID No.: 11100077 **1b)** AQ File No.: 4297

**2)** Facility Name: Green Plains Otter Tail, LLC

**3)** Is there a New Source Performance Standards (NSPS) for a source category which includes the unit(s) you are installing, modifying, or reconstructing?

☐ Yes. Go to question 4

☒ No. Done with this Form. Answer "No" to question 3b) on Form CH-03.

**4)** Complete Question 4a) – 4c) for each new, modified, or reconstructed unit which may be subject to an NSPS following the proposed project. (Copy as necessary.)

<b>4a)</b> Unit	<b>4b)</b> NSPS Subpart(s) that may apply after project	<b>4c)</b> Do all of the NSPS listed in column 4b) for the unit listed in column 4a) currently apply (prior to the proposed project)? If this is a new unit, the answer is "no."	
		<input type="checkbox"/> Yes – done with this unit	<input type="checkbox"/> No
		<input type="checkbox"/> Yes – done with this unit	<input type="checkbox"/> No
		<input type="checkbox"/> Yes – done with this unit	<input type="checkbox"/> No
		<input type="checkbox"/> Yes – done with this unit	<input type="checkbox"/> No
		<input type="checkbox"/> Yes – done with this unit	<input type="checkbox"/> No

**5)** Did you check "no" in column 4c) for **any** unit in the table in question 4)?

☐ No. This indicates that NSPS currently applies to all units and there will be no newly applicable NSPS as a result of the proposed project. Done with this form. Answer "no" to question 3b) on Form CH-03.

☐ Yes. Complete the remainder of this form for each unit for which you checked "no" in the last column of the table in question 4.

**6)** Installing a new unit to which the NSPS will apply?

☐ No. Go to Question 7).

☐ Yes – Complete Questions 6a) – 6e) for each new unit. (Copy as necessary.)

**6a)** Emission Unit Number: \_\_\_\_\_

**6b)** Emission Unit/Equipment Description: \_\_\_\_\_

**6c)** Stack/Vent Number: \_\_\_\_\_

**6d)** Date of Equipment Manufacture or Installation: \_\_\_\_\_ (Month/Date/Year)

**6e)** Attach a copy of the applicable 40 CFR pt. 60 subpart, and subpart A, with the applicable sections highlighted. Use Form CD-01 to document the proposed methods of compliance.

**7)** Reconstructing an existing unit to which an NSPS will apply?

☐ No. Go to Question 8).

☐ Yes – Complete Questions 7a) – 7e) (next page) for each reconstructed unit. (Copy as necessary.)

- 7a) Emission Unit Number: \_\_\_\_\_
- 7b) Emission Unit/Equipment Description: \_\_\_\_\_
- 7c) Stack/Vent Number: \_\_\_\_\_
- 7d) Date of Reconstruction (expected): \_\_\_\_\_ (Month/Date/Year)
- 7e) Attach a copy of the applicable 40 CFR pt. 60 subpart, and subpart A, with the applicable sections highlighted. Use Form CD-01 to document the proposed methods of compliance.

8) Physical change or modification to an existing unit to which the NSPS might apply?

- ☐ No. Go to Question 10).
- ☐ Yes – Complete Question 8a) for each modified unit. (Copy as necessary.)

8a) Emission Unit ID No.: \_\_\_\_\_

Pollutant(s) regulated by the NSPS	Emission Rate after change (lb/hr)	Emission Rate before change (lb/hr)	Change in Emission Rate (lb/hr)
<input type="checkbox"/> PM			
<input type="checkbox"/> PM <sub>10</sub>			
<input type="checkbox"/> PM <sub>2.5</sub>			
<input type="checkbox"/> NO <sub>x</sub>			
<input type="checkbox"/> SO <sub>2</sub>			
<input type="checkbox"/> CO			
<input type="checkbox"/> VOC			
<input type="checkbox"/> Lead			

9) Is there an increase in the hourly emission rate of any of the pollutants regulated by the NSPS?

- ☐ No. Go to Question 10).
- ☐ Yes – Complete Questions 9a) – 9d) for each modified unit. (Copy as necessary.)

9b) Emission Unit/Equipment Description \_\_\_\_\_

9b) Stack/Vent Number \_\_\_\_\_

9c) Date of Modification (expected) \_\_\_\_\_ (Month/Date/Year)

9d) Attach a copy of the applicable 40 CFR pt. 60 subpart, and subpart A, with the applicable sections highlighted. Use Form CD-01 to document the proposed methods of compliance.

10) Check all that apply

- ☐ If you answered either “yes” or “no” to question 6) **and** “no” to question 7) **and** “no” to question 8) or question 9), a major amendment is not needed under Minn. R. 7007.1500, subp. 3a. Answer “no” to Question 3b) on Form CH-03. Another type of permit amendment may still be required.
- ☐ If you answered “yes” or “no” to question 6), **and either** “yes” to question 7) **or** “yes” to questions 8) and 9), this change or modification requires a major amendment under Minn. R. 7007.1500, subp. 3a. Answer “yes” to Question 3b) on Form CH-03.
- ☐ If you answered “yes” to question 6), 7), or 9), **but the total facility potential-to-emit remains below all permit thresholds**, review Minn. R. 7007.0250 – 7007.0300 to determine if a permit is needed.



AIR QUALITY  
520 LAFAYETTE ROAD  
ST. PAUL, MN 55155-4194

PERMIT CHANGE FORM **CH-06**  
**APPLICABILITY OF PART 61 NESHAP**  
(FORMERLY MOD-06 APPLICABILITY OF PART 61 NESHAP)  
03/31/04

Complete this form to determine if the proposed change or modification results in new applicability of a Part 61 NESHAP listed in Table 1.

- 1a) AQ Facility ID No.: 11100077
- 1b) AQ File No. 4297
- 2) Facility Name.: Green Plains Otter Tail, LLC
- 3) Is there a Part 61 NESHAP for a source category which includes the unit(s) you are installing, modifying, or reconstructing?
- ☐ Yes. Go to question 4
- ☒ No. Done with this Form. Answer "No" to question 3c) on Form CH-03.

- 4) Complete Question 4a) – 4c) for each new, modified, or reconstructed unit which may be subject to a Part 61 NESHAP following the proposed project. (Copy as necessary.)

4a) Unit	4b) Part 61 Subpart(s) that may apply after project	4c) Do all of the NESHAPs listed in column 4b) for the unit listed in column 4a) currently apply (prior to the proposed project)? If this is a new unit, the answer is "no."
		<input type="checkbox"/> Yes – done with this unit <input type="checkbox"/> No
		<input type="checkbox"/> Yes – done with this unit <input type="checkbox"/> No
		<input type="checkbox"/> Yes – done with this unit <input type="checkbox"/> No
		<input type="checkbox"/> Yes – done with this unit <input type="checkbox"/> No
		<input type="checkbox"/> Yes – done with this unit <input type="checkbox"/> No

- 5) Did you check "no" in column 4c) for any unit in the table in question 4)?
- ☐ No. This indicates that NESHAP currently applies to all units and there will be no newly applicable NESHAPs as a result of the proposed project. Done with this form. Answer "no" to question 3c on Form CH-03.
- ☐ Yes. Complete the remainder of this form for each unit for which you checked "no" in the last column of the table in question 4.
- 6) Installing new equipment which will cause a Part 61 NESHAP to apply?
- ☐ No - Go to question 7).
- ☐ Yes – Complete 6a) – 6c) for each new unit. (Copy as necessary.) Use Form CD-01 to document the proposed methods of compliance. Include a highlighted photocopy of the standard.

6a)	Emission Unit Number	
6b)	Emission Unit/Equipment Description	
6c)	Stack/Vent Number	

7) Physical or operational change to an existing unit such that a Part 61 NESHAP will apply?

☐ No. Go to question 9).

☐ Yes - Complete 7a) for each modified unit. (Copy as necessary.) Then go to question 8).

7a) Emission Unit ID No.:			
Pollutant	Emission Rate after change (lb/hr)	Emission Rate before change (lb/hr)	Change in Emission Rate (lb/hr)

8) Is there an increase in the emission rate of any of the pollutants regulated by the Part 61 NESHAP?

☐ No. Go to question 9).

☐ Yes – Complete questions 8a) – 8c) for each modified unit. (Copy as necessary.) Use Form CD-01 to document the proposed methods of compliance. Include a highlighted photocopy of the standard.

8a)	Emission Unit/Equipment Description	
8b)	Stack/Vent Number	
8c)	Date of Modification (expected)	(Month/Date/Year)

9) Check all that apply

☐ If you answered “yes” or “no” to question 6) and “no” to question 7) or 8), a major amendment is not needed under Minn. R. 7007.1500, subp. 1.D. Answer “no” to Question 3c) on Form CH-03. Another type of permit amendment may be required.

☐ If you answered “yes” or “no” to question 6) and “yes” to question 8), this change or modification requires a major amendment under Minn. R. 7007.1500, subp. 1.D. Answer “yes” to Question 3c) on Form CH-03.

☐ If you answered “yes” to question 6) or 8), **but the total facility potential-to-emit remains below all permit thresholds**, you are required to obtain a permit only for the emission unit(s) subject to the Part 61 NESHAP.





**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-07**

**Applicability of Part 63 NESHAP for Amendments**

Air Quality Permit Program

*Doc Type: Permit Application*

AQ Facility ID No.: 11100077

AQ File No.: 4297

Facility Name: Green Plains Otter Tail, LLC

- 1) Are there or will there be Hazardous Air Pollutants (HAPs) emissions (listed on Table A) from any source affected by the proposed project?  
☒ No. Done with this form. Answer "No" to Question 3d on Form CH-03.  
☐ Yes. Go on to Question 2 of this form.
  
- 2) Are you proposing to install new HAP-emitting sources, or reconstruct existing equipment that will emit HAPs following the reconstruction? (This specifically means "reconstruction" as defined at 40 CFR § 63.2 – if you modify existing equipment without meeting the definition of "reconstruction," the answer to this question is "No.")  
☐ No. Done with this form. Answer "No" to Question 3d on Form CH-03.  
☐ Yes. Go on to Question 3 of this form.
  
- 3) Is the currently-permitted facility a major HAP source (considering potential emissions and all existing federally enforceable permit conditions)?  
☐ No. Go on to Question 4.  
☐ Yes. Go to Question 7.
  
- 4) Will the new or reconstructed items have the potential to emit 10 or more tons per year of any individual HAP, or 25 or more tons per year of total HAPs, before considering any limits the source may be subject to or limits you may propose later in this form?  
☐ No. Go on to Question 5.  
☐ Yes. Go to Question 6.
  
- 5) Will the facility as modified be a major source of HAP emissions after your proposed change, before considering any limiting conditions you may propose later in this form?  
☐ No. Go to Question 10.  
☐ Yes. Go on to Question 6.
  
- 6) It is possible to avoid becoming a major HAP source by proposing federally enforceable permit conditions to limit your potential HAP emissions from the entire facility (as modified) to less than 10 tons per year for each HAP and/or 25 tons per year for all HAPs combined. Do you want to accept permit limitations on HAPs to avoid becoming a major HAP source?  
☐ No. Go on to question 7.  
☐ Yes. Briefly describe the limitations you would be willing to accept so that your HAP emissions will be less than 10 tons per year for each HAP and less than 25 tons per year for all HAPs combined (use a separate sheet if needed). Description must include each of the HAP pollutants. Include your proposed limit, monitoring, recordkeeping, and reporting on Form CD-01. You must answer "Yes" to Question 6 on Form CH-03. Then go to Question 10 of this form.

- 7) Will any of the new or reconstructed items be subject to any of the standards for major source categories listed in Table B? Also consider whether any existing, non-modified parts of the facility are subject to one or more of the standards listed in Table B; if so, and the standard is not already included in your existing permit, include those sources and standards here as well.

- ☐ No. Go on to Question 8.  
☐ Yes. List the source categories applicable to each new, reconstructed, or existing HAP-emitting equipment.

Source	(N)ew, (R)econstructed, or (E)xisting? (Check one)	Applicable Source Category (Subpart or Title)	Compliance Date
	<input type="checkbox"/> N <input type="checkbox"/> R <input type="checkbox"/> E		
	<input type="checkbox"/> N <input type="checkbox"/> R <input type="checkbox"/> E		
	<input type="checkbox"/> N <input type="checkbox"/> R <input type="checkbox"/> E		
	<input type="checkbox"/> N <input type="checkbox"/> R <input type="checkbox"/> E		

For each standard listed above, attach a copy of the National Emission Standards for Hazardous Air Pollutant (NESHAP) standard with the applicable parts highlighted. If the applicable standard offers more than one compliance option, make it clear which one you are choosing.  
Go on to Question 8.

- 8) Will the new or reconstructed source have the potential to emit 10 or more tons per year of any individual HAP, or 25 or more tons per year of total HAPs, before considering any limits the source may be subject to?

- ☐ No. Done with this form. Answer "No" to Question 3d on Form CH-03.  
☐ Yes. Go on to Question 9 of this form. Answer "Yes" to Question 3d on Form CH-03.

- 9) Will any of the new or reconstructed items **not** be subject to any of the standards for major source categories listed in Table B?

- ☐ No. Done with this form.  
☐ Yes. List them here. Done with this form.

**HAP-emitting units with no applicable source category in Table B.**

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For those HAP-emitting units listed above, you must propose a case-by-case MACT determination meeting the requirements of 40 CFR § 63.43. Contact the Minnesota Pollution Control Agency (MPCA) for information about proposing a case-by-case MACT determination for approval.

- 10) Some non-major HAP sources will be subject to requirements of NESHAPs called "area source" NESHAPs. Will the proposed new or reconstructed units belong to any of the area source categories listed below?

- ☐ No. Done with this form. Answer "No" to Question 3d on Form CH-03.  
☐ Yes. Place a check in the box next to that category, and read the specified NESHAP for Source Categories to determine all applicable requirements for area sources. Attach a copy of each applicable subpart of the NESHAP for area source categories, and highlight the applicable requirements in each applicable subpart. Done with this form. Answer "No" to Question 3d on Form CH-03.

- ☐ Acrylic and Modacrylic Fibers Production, 40 CFR § 63 Subpart LLLLLL  
☐ Aluminum, Copper, and Other Nonferrous Foundries, 40 CFR § 63 Subpart ZZZZZZ  
☐ Asphalt Processing and Asphalt Roofing Manufacturing, 40 CFR § 63 Subpart AAAAAAA  
☐ Carbon Black Production, 40 CFR § 63 Subpart MMMMMM  
☐ Chemical Manufacturing Area Sources, 40 CFR § 63 Subpart VVVVVV  
☐ Chemical Manufacturing: Chromium Compounds, 40 CFR § 63 Subpart NNNNNN  
☐ Chemical Preparations Industry, 40 CFR § 63 Subpart BBBBBBB  
☐ Chromic acid anodizing (**Chromium Electroplating**), 40 CFR § 63 Subpart N  
☐ Clay Ceramics Manufacturing, 40 CFR § 63 Subpart RRRRRR  
☐ Commercial dry cleaning (Perc) transfer machines, 40 CFR § 63 Subpart M  
☐ Commercial sterilization facilities, 40 CFR § 63 Subpart O  
☐ Decorative chromium electroplating (**Chromium Electroplating**), 40 CFR § 63 Subpart N  
☐ Electric Arc Furnace Steelmaking Facilities, 40 CFR § 63 Subpart YYYYYY

- ☐ Ferroalloys Production Facilities, 40 CFR § 63 Subpart YYYYYY
- ☐ Flexible Polyurethane Foam Production and Fabrication, 40 CFR § 63 Subpart OOOOOO
- ☐ Gasoline Dispensing Facilities, 40 CFR § 63 Subpart CCCCCC
- ☐ Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities, 40 CFR § 63 Subpart BBBBBB
- ☐ Glass Manufacturing, 40 CFR § 63 Subpart SSSSSS
- ☐ Halogenated solvent cleaners (Degreasing Organic Cleaners), 40 CFR § 63 Subpart T
- ☐ Hard chromium electroplating (**Chromium Electroplating**), 40 CFR § 63 Subpart N
- ☐ Hospital Sterilizers using Ethylene Oxides, 40 CFR § 63 Subpart WWWWWW
- ☐ Iron and Steel Foundries Area Sources, 40 CFR § 63 Subpart ZZZZZ
- ☐ Lead Acid Battery Manufacturing, 40 CFR § 63 Subpart PPPPPP
- ☐ Metal Fabrication and Finishing Sources, 40 CFR § 63 Subpart XXXXXX
- ☐ Oil and natural gas production, 40 CFR § 63 Subpart HH
- ☐ Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, 40 CFR § 63 Subpart HHHHHH
- ☐ Paints and Allied Products Manufacturing, 40 CFR § 63 Subpart CCCCCC
- ☐ Plating and Polishing Operations, 40 CFR § 63 Subpart WWWWWW
- ☐ Polyvinyl Chloride and Copolymers Production, 40 CFR § 63 Subpart DDDDDD
- ☐ Prepared Feeds Manufacturing, 40 CFR § 63 Subpart DDDDDDD
- ☐ Primary Copper Smelting, 40 CFR § 63 Subpart EEEEEEE
- ☐ Primary Nonferrous Metals: Zinc, Cadmium, and Beryllium, 40 CFR § 63 Subpart GGGGGG
- ☐ Reciprocating Internal Combustion Engines, 40 CFR § 63 Subpart ZZZZ
- ☐ Secondary aluminum processing, 40 CFR § 63 Subpart RRR
- ☐ Secondary Copper Smelting, 40 CFR § 63 Subpart FFFFFF
- ☐ Secondary Nonferrous Metals Processing, 40 CFR § 63 Subpart TTTTTT
- ☐ Wood Preserving, 40 CFR § 63 Subpart QQQQQQ



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-08**

**Administrative Amendment Determination**

Air Quality Permit Program

*Doc Type: Permit Application*

**Instructions on Page 2**

**1a)** AQ Facility ID No.: 11100077 **1b)** AQ File No.: 4297  
**2)** Facility Name: Green Plains Otter Tail, LLC

Permit changes described on this form may be made through the administrative permit amendment process. By answering the following question, please verify that the proposed change does not require a major amendment:

I answered "no" to all questions on Form CH-03

- ☐ No. I answered "yes" to one or more questions on Form CH-03. This means that the proposed change requires a major amendment, and the administrative amendment process is not applicable.
- ☒ Yes. To apply for an administrative amendment, indicate which of the following **completely** describes the change needed to your permit.
- ☐ A. An amendment to correct a typographical error.
  - ☐ B. An amendment to change the name, mailing address, or telephone number of any person identified in the permit, or that reflects a similar minor administrative change at the permitted facility. A change in the stationary source's location of operation is not covered by this item.
  - ☐ C. An amendment requiring the permittee to comply with additional, more frequent, or expanded testing, monitoring, recordkeeping, or reporting requirements
  - ☐ D. An amendment to eliminate monitoring, recordkeeping, or reporting requirements if:
    - The requirements are rendered meaningless because the only emissions to which the requirements apply will no longer occur.
    - The change is to eliminate one validated reference test method for a pollutant and source category in order to add another.
    - The requirements are redundant to or less strict than other existing requirements.
    - The requirements are technically incorrect and their elimination does not affect the accuracy of the data generated or of the monitoring information recorded or reported.
    - The piece of equipment to which the monitoring, recordkeeping, or reporting requirement applies no longer exists or has been permanently disabled from use at the stationary source.
  - ☐ E. An amendment reflecting a change in ownership or operational control of a stationary source where the Minnesota Pollution Control Agency (MPCA) determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the MPCA.
  - ☐ F. An amendment to incorporate into a permit the requirements from preconstruction review permits issued by the MPCA, incorporate into a permit the requirements from standards adopted under Code of Federal Regulations, title 40, part 63, as amended (National Emission Standards for Hazardous Air Pollutants for Source Categories), or to lower the plantwide emission limits in permits with Plantwide Applicability Limits to reflect the impact of standards adopted under Code of Federal Regulations, title 40, part 63, as amended;
  - ☐ G. An amendment to clarify the meaning of a permit term.
- Note:** Administrative amendments cannot make substantive changes to permit
- ☐ H. An amendment to extend a deadline in a permit by no more than 120 days, provided that the MPCA may only extend a deadline established by an applicable requirement described in Minn. R. 7007.0100, subp. 7(A)-(K), if the Agency has been delegated authority to make such extensions by the administrator of U. S. Environmental Protection Agency (EPA). Notwithstanding the previous sentence, the MPCA may do an administrative amendment to extend a testing deadline in a permit up to 365 days if the MPCA finds that the extension is needed to allow the permittee to test at worst case conditions as required by Minn. R. 7017.2025, subp. 2.

- ☐ I. An amendment to remove any condition from a permit which was based on an applicable requirement that has been repealed, but only if the permit condition:
- Is neither required nor replaced by another applicable requirement; and
  - was not established for a specific facility to protect human health and the environment, to prevent pollution, as a mitigation measure in an environmental impact statement, or to obtain a negative declaration in an environmental assessment worksheet, and
- ☐ J. An amendment to correct or update a citation to an applicable requirement where the corresponding permit condition is not changed.
- ☐ K. An amendment to include operating conditions that ensure that waste combustors emit mercury at less than 50 percent of the applicable standard.

If any of the above are checked, and the checked change completely describes your proposed changes (i.e., there is nothing else that is being changed other than what is indicated on this form), then the change qualifies for an administrative amendment. Answer "yes" to Question 5 on Form CH-02. Attach a sheet describing the section of the permit that is to be amended and your proposed new permit conditions. You may wish to submit a marked-up copy of the relevant portions of your existing permit to provide this information clearly.

## Instructions for Form CH-08

- 1a) AQ Facility ID No.** -- Fill in your Air Quality (AQ) Facility identification (ID) Number (No.). This is the first eight digits of the permit number for all new permits issued under the operating permit program.
- 1b) AQ File No.** -- Fill in your AQ File Number. This is the first group of characters in your current Air Emission Facility Permit. For example, for permit number 1899AB-93-OT-1, the AQ Facility ID number would be 1899AB.
- 2) Facility Name** -- Enter your facility name.

You **must** apply for an administrative amendment if:

- a) There has been a change in ownership or operational control of your facility. With the application for the amendment, you need to provide some additional information (described in Minn. R. 7007.1400, subp. 1(E)); or if,
- b) There has been a change in the name, mailing address, or telephone number of any person identified in the permit. You may not use the administrative amendment procedure to change the location of your facility. You **may** apply for an administrative amendment for several other reasons. These reasons are listed in Minn. R. 7007.1400, subp. 1. and on the first two pages of this form.

If you need to change the general contact information for your facility (e.g., information that does not appear in the permit, such as contact or billing name, phone number, e-mail, etc.), this does not require a permit action but you do need to notify the MPCA so that we have current information for your facility. Submit a letter to the MPCA's Air Quality Permit Document Coordinator, IND/AQP, explaining the changed information.

## Administrative Permit Amendment Requirements:

- You must apply for an administrative permit amendment using the forms indicated on Form CH-14. Specify the section of the permit that is to be amended and state the reason for the amendment. Unless the change is for ownership or operational control, you may proceed with the change proposed in the administrative amendment immediately after the MPCA receives the request. If the change is for ownership or operational control, the new owner or operator must agree to comply with the terms of the existing permit before the amendment can be made.
- If the administrative permit amendment is to a Part 70 permit, the MPCA shall submit a copy of the amended permit or permit amendment to the EPA for a 45-day review period, as required by the EPA.
- The only administrative amendments to which the permit shield established by part 7007.1800 shall apply are those described in subp. 1, item F.
- Amendments to the acid rain portion of a permit shall be governed by, 40 CFR Part 72, as amended.
- The permittee may make the change proposed in the administrative amendment request immediately after the request is received by the MPCA, if the change is described above. However, if the change is of ownership or operational control, the new owner's or operator's right to operate the permitted stationary source under the previous sentence is contingent upon the new owner's or operator's compliance with the terms of the stationary source's permit.



AIR QUALITY  
520 LAFAYETTE ROAD  
ST. PAUL, MN 55155-4194

PERMIT CHANGE FORM **CH-09**  
**CONTRAVENING PERMIT TERMS**  
(FORMERLY MOD-09 CONTRAVENING PERMIT TERMS)  
03/31/04

1a) AQ Facility ID No.: 11100077  
1b) AQ File No. 4297  
2) Facility Name: Green Plains Otter Tail, LLC

In order to qualify as “contravening permit terms,” a change cannot be a Title I modification. Please verify that the proposed change is not a Title I modification:

**I answered “no” to questions 3a – 3d on Form CH-03.**

☐ No. I answered “yes” to one or more of questions 3a – 3d on Form CH-03. This means that the proposed change is a Title I modification and cannot be made under the “contravening permit terms” provision.

☒ Yes. Review the instructions on the next page, including Minn. R. 7007.1350. If the change qualifies as “contravening permit terms,” describe the change below. Include a description of the permit term being contravened or a marked up copy of the permit and why the change qualifies for this procedure.

This change does not qualify as contravening permit terms.



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**Applicability of Minor or Moderate Amendment Process**

Air Quality Permit Program

Doc Type: Permit Application

**CH-10**

**Instructions on Page 3**

1a) AQ Facility ID No.: 11100077 1b) AQ File No.: 4297

2) Facility Name: Green Plains Otter Tail, LLC

After completing Form CH-03 to determine that the proposed change does not require a major amendment, use this form to determine if the change requires a Minor or Moderate Amendment. Please confirm the following:

I answered "No" to all questions on Form CH-03.

☐ No. This indicates that a major amendment is required and this form is not applicable.

☒ Yes. The proposed change does not require a major amendment.

**Part A. Determination of Increases for Non-Title I Changes**

See instructions for calculating emissions. Make copies if more than four emission units are affected by the proposed change. Attach your calculations.

Emission Source:	FS007			
Pollutant	After Change (lb/hr)	Before Change (lb/hr)	Net Change (lb/hr)	Annual (ton/year)
PM <sub>10</sub>	0.031	0.000	0.031	0.13
NOx				
SO <sub>2</sub>				
CO				
VOC				
Lead				

Emission Source:				
Pollutant	After Change (lb/hr)	Before Change (lb/hr)	Net Change (lb/hr)	Annual (ton/year)
PM <sub>10</sub>				
NOx				
SO <sub>2</sub>				
CO				
VOC				
Lead				

Emission Source:				
Pollutant	After Change (lb/hr)	Before Change (lb/hr)	Net Change (lb/hr)	Annual (ton/year)
PM <sub>10</sub>				
NO <sub>x</sub>				
SO <sub>2</sub>				
CO				
VOC				
Lead				

Emission Source:				
Pollutant	After Change (lb/hr)	Before Change (lb/hr)	Net Change (lb/hr)	Annual (ton/year)
PM <sub>10</sub>				
NO <sub>x</sub>				
SO <sub>2</sub>				
CO				
VOC				
Lead				

## Part B. Determination of Applicability of Minor or Moderate Amendment Process

See instructions for calculating increases. Attach any additional calculations.

### Total Project Emission Changes by Pollutant

PM <sub>10</sub> Source	Net Increase (lb/hr)
FS007	0.031

NO <sub>x</sub> Source	Net Increase (lb/hr)

VOC Source	Net Increase (lb/hr)

SO <sub>2</sub> Source	Net Increase (lb/hr)

CO Source	Net Increase (lb/hr)

Lead Source	Net Increase (lb/hr)



**Table 1: Insignificant, Minor, and Moderate Thresholds**

Pollutant	Insignificant	Minor	Moderate
NO <sub>x</sub>	< 2.28 lb/hr	≥ 2.28 lb/hr, < 9.13 lb/hr	≥ 9.13 lb/hr
SO <sub>2</sub>	< 2.28 lb/hr	≥ 2.28 lb/hr, < 9.13 lb/hr	≥ 9.13 lb/hr
VOC	< 2.28 lb/hr	≥ 2.28 lb/hr, < 9.13 lb/hr	≥ 9.13 lb/hr
PM <sub>10</sub>	< 0.855 lb/hr	≥ 0.855 lb/hr, < 3.42 lb/hr	≥ 3.42 lb/hr
CO	< 5.70 lb/hr	≥ 5.70 lb/hr, < 22.80 lb/hr	≥ 22.80 lb/hr
Lead	< 0.025 lb/hr	≥ 0.025 lb/hr, < 0.11 lb/hr	≥ 0.11 lb/hr

To determine if the change qualifies for the Moderate or Minor Amendment process or as an Insignificant modification, compare the net change in hourly emissions for the criteria pollutants to the thresholds in the instructions. If there is no increase in emissions, notification to the Minnesota Pollution Control Agency (MPCA) is still required for some activities. See Form CH-12.

The proposed change qualifies as a (choose one):

- ☐ Minor Amendment – Attach **all** calculations and suggested permit language.
- ☐ Moderate Amendment – Attach **all** calculations and suggested permit language.
- ☒ Insignificant Modification – Keep documentation of your determination for your records.
- ☐ No Increase – Determine if written notification to the MPCA is required. Note that if the provisions of Minn. R. 7007.1150(C) **do not** apply, and the change is not a modification but still requires an amendment of a permit condition, then you need to apply for a Moderate Amendment. For example, you may be replacing existing control equipment with control equipment that is not “listed control equipment” as defined by Minn. R. 7011.0060, subp. 4; your permit includes operating conditions for the existing equipment, but since the replacement equipment is not “listed control equipment,” there is not a rule governing its operations, so your permit must be amended to include operating conditions for the replacement equipment.

## Instructions for Form CH-10

- 1a) AQ Facility ID No.** – Fill in your Air Quality (AQ) Facility Identification (ID) Number (No.). This is the first eight digits of the permit number for all permits issued under the operating permit program.
- 1b) AQ File No.** – Fill in your AQ File Number. This number can be found in the “cc” line of correspondence from the Minnesota Pollution Control Agency (MCPA).
- 2) Facility Name** -- Enter your facility name.

If you determined that the proposed change results in an emissions increase but does not require a Major Amendment, and does not qualify under the provisions for contravening permit terms or administrative amendments, then you must use the following procedure to determine the type of amendment procedure available to you under Minnesota Rules.

### Part A

Use the following procedure to determine the total emissions increase from the proposed change, under State Rules. Perform the analysis for nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), volatile organic compounds (VOC), particulate matter smaller than 10 microns (PM<sub>10</sub>), carbon monoxide (CO), and lead. Do not take air pollution control equipment into account except as allowed under Minn. R. 7007.1200, subp. 3 (below).

Please provide your maximum total project emission increases, emission decreases, and net change in pounds per hour (lbs/hour), and your annual increase in tons per year (tpy) for all pollutants listed in these instructions. Supporting calculations must be attached showing that the numbers reflect the maximum possible increases. Minn. R. 7007.1200 provides the following instructions on how to calculate emissions changes for a modification that is not a Title 1 modification:

**Subp. 3. Calculation method for modifications that are not title I modifications.** Emissions changes for a modification must be calculated by comparing the hourly emission rate of the stationary source, at maximum physical capacity, before and after the proposed physical or operational change. The emission rate shall be expressed as pounds per hour of any regulated air pollutant. Items A to C shall be used to determine emission changes for modifications that are not title I modifications.

- A. When calculating emissions before and after the physical and operational change, physical and operational limitations and emission decreases will be considered only if they:
  - (1) are or will be automatically required by an applicable requirement including parts 7011.0060 to 7011.0080,
  - (2) are or will be automatically required by an existing permit;



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-11**

**Crossing Permit Thresholds**

Air Quality Permit Program

*Doc Type: Permit Application*

**Instructions on Page 2**

**1a)** AQ Facility ID No.: 11100077 **1b)** AQ File No.: 4297

**2)** Facility Name: Green Plains Otter Tail, LLC

Use this form to determine if the proposed changes cause the facility to become subject for the first time to the requirement to obtain either a State or a Part 70 permit. Please attach your documentation.

Total Facility PTE before change	Total Facility PTE after change	Action required
<input type="checkbox"/> Below all permit thresholds	Remains below all permit thresholds and the change does not cause the source or any part to become subject to an NSPS (40 CFR pt. 60) or a Part 61 NESHAP (40 CFR pt. 61).	No permit action required
<input type="checkbox"/> Below all permit thresholds	Remains below all permit thresholds but the change causes the source or any part to become subject to an NSPS (40 CFR pt. 60) or a Part 61 NESHAP (40 CFR pt. 61).	Apply for and receive a permit only for those sources subject to that regulation. Check applicability of registration permit and general permit.
<input type="checkbox"/> Below all permit thresholds	Exceeds a threshold for a State permit but not for a Part 70 permit.	Apply for and receive a permit to construct before beginning actual construction. (See instructions for details.)
<input type="checkbox"/> Below all permit thresholds or above a state permit threshold but below all Part 70 thresholds	Exceeds a threshold for a Part 70 permit	
<input checked="" type="checkbox"/> Above a State permit threshold but below all Part 70 thresholds	Remains above a State permit threshold but below all Part 70 thresholds	You may amend your existing permit. If your operating permit has not been issued, but the application was submitted on time, you may apply for a permit to construct and operate the modification only. If you have not applied for an operating permit, you must apply for and receive either a State or Part 70 permit prior to beginning actual construction.
<input type="checkbox"/> Above Part 70 Threshold	Remains above Part 70 Threshold	



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-12**

**Written Notification Form**

Air Quality Permit Program

*Doc Type: Permit Application*

**Instructions on Page 2**

**1a)** AQ Facility ID No.: 11100077 **1b)** AQ File No.: 4297  
**2)** Facility Name: Green Plains Otter Tail, LLC

Only fill out this form if you have determined that there are no significant emissions increases associated with the proposed change or modification, the change or modification does not require a major amendment, and the change or modification does not require a permit action of any type. Please confirm the following statements:

I answered "no" to all questions on Form CH-03.

- ☐ No. This indicates that a major amendment is required; this form is not applicable.  
☒ Yes. The proposed change does not require a major amendment.

I determined using Form CH-10 that there is no emissions increase associated with the proposed change.

- ☒ No. This indicates that there is an associated emissions increase; this form is not applicable.  
☐ Yes. There is no emissions increase associated with the proposed change.

I determined using Form CH-08 that the change does not require an administrative amendment.

- ☒ No. The change does require an administrative amendment; this form is not applicable.  
☐ Yes. The following changes may be made without applying for or obtaining an amendment. You are required to provide written notice to the Minnesota Pollution Control Agency (MPCA) seven (7) days before making the change. Check the instructions for this form to be sure the change you want to make qualifies. Check the appropriate box and use this form to provide the written notice to the MPCA. Also include with this a description of emission units deleted from the facility and other changes which result in applicable requirements no longer applying.

After you have confirmed that your proposed change qualifies under the written notification provisions, please indicate what type of notification you are submitting:

- ☐ Installation of new air pollution control equipment
- Include a completed Form GI-05A to describe the equipment, a Form GI-05B to indicate which emissions unit is controlled by the new equipment, and a Form CD-01 describing the operating and monitoring requirements.
- ☐ Replacement of an air emission unit with one which does not increase emissions and does not cause emission of a pollutant not previously emitted
- Include a completed Form GI-05B describing the new unit, and Form CD-01 describing compliance with applicable requirements.
- ☐ Replacement of air pollution control equipment with listed control equipment which has equal or better removal efficiency. (Note: This does not include replacement of existing control equipment with control equipment that is not "listed control equipment" under Minn. R. 7011.006, subp. 4.)
- Include a completed Form GI-05A to describe the equipment, a Form GI-05B to indicate which emissions unit(s) is controlled by the new equipment, and Form CD-01 if monitoring, recordkeeping, or reporting requirements change.
- ☐ Contravening permit
- Include a completed Form CH-09
- ☐ Accumulated insignificant modifications
- If you have made Insignificant Modifications during the past five years so that the total increase exceeds the thresholds in the instructions for this form, you must report all unreported Insignificant Modifications made during the past five years to the MPCA using this form. Complete the following table.

Insignificant Modification Description and Date	Emission Increase, in lbs/hr					
	NO <sub>x</sub>	SO <sub>2</sub>	VOC	PM <sub>10</sub>	CO	Lead
Temporary Flat Storage (FS007)(AnnualAverage)				0.03		
Temporary Flat Storage (FS007)(Max Emissions)				0.84		
Total Emission Increase (compare to Table 2 at end of instructions)				0.03		

## Instructions for Form CH-12

**1a) AQ Facility ID No.** -- Fill in your Air Quality (AQ) Facility Identification (ID) Number (No.). This is the first eight digits of the permit number for all permits issued under the operating permit program.

**1b) AQ File No.** -- Fill in your AQ File Number. This number can also be found in the "cc" line of the correspondence from the MPCA.

**2) Facility Name** -- Enter your facility name.

- **Installation of new air pollution control equipment**
- **Replacement of an emissions unit with one which does not increase emissions and does not cause emission of a pollutant not previously emitted**
- **Replacement of air pollution control equipment with listed control equipment which has equal or better removal efficiency**

You may make these three types of changes seven (7) working days after providing a written notice to the MPCA, provided that the change: (i) does not increase emissions of any regulated air pollutant; (ii) does not constitute a title I modification; and (iii) does not constitute any other type of modification, if the change is one of the following:

- (1) installing air pollution control equipment;
- (2) replacing an emission unit identified in the permit with one that does not increase emissions; and
- (3) replacing air pollution control equipment with listed control equipment, as defined in Minn. R. 7011.0060, subp. 4, which has an equivalent or better removal efficiency of regulated pollutants previously controlled with the replacement control equipment.

If the installation or replacement constitutes a title I modification or other type of modification, this item does not apply, and the Permittee shall follow the applicable procedures of part 7007.1250, 7007.1350, 7007.1450, or 7007.1500.

You may not use these notification procedures for any project that would result in the violation of an applicable requirement OR existing permit condition; this would require a permit amendment.

The notice must be received at least seven working days prior to the installation or replacement.

If the MPCA finds that no additional permitting requirements are required, your written notice will be attached to your permit. You will not be notified.

If additional permitting requirements are required, the MPCA will initiate the amendment process. If you have notified the MPCA as required and if the change does not otherwise require a permit amendment, the installation and operation of the pollution control equipment or the replacement equipment will not be considered to be a violation of your existing permit.

Note on use of this procedure for installing or replacing air pollution control equipment: No debottlenecking or capacity utilization increase is allowed as a result of the installation or replacement unless the new PTE is below NSR thresholds.

- **Contravening permit terms**

Use Form CH-09 to describe the change and determine applicability under this provision.

The MPCA will review the notice. If it finds that the proposed change is allowed, the notice will be attached to your permit. The MPCA will **not** notify you.

If the proposed change is not allowed, the MPCA will notify you. You will be told how to make the change using the appropriate modification procedures.

- **Accumulated Insignificant Modifications**

Minn. R. 7007.1250, subp. 4 requires notification to the MPCA when the total increase in emissions of all Insignificant Modifications made within five years of each other exceeds four times the threshold for any one Insignificant Modification. The notification must include a certification by a responsible official that the modifications listed were not part of a single project which taken as a whole would not be authorized as an Insignificant Modification.

Table 1 below contains the thresholds for a single change to qualify as an Insignificant Modification. If all Insignificant Modifications made within a five year period add up to an increase in emissions equal to or greater than Table 2, all of those Insignificant Modifications must be reported to the MPCA.

**Table 1**

Pollutant	Threshold
NO <sub>x</sub>	2.28 pounds per hour
SO <sub>2</sub>	2.28 pounds per hour
VOC	2.28 pounds per hour
PM <sub>10</sub>	0.855 pounds per hour
CO	5.70 pounds per hour
Lead	0.025 pounds per hour

**Table 2**

Pollutant	Threshold
NO <sub>x</sub>	9.13 pounds per hour
SO <sub>2</sub>	9.13 pounds per hour
VOC	9.13 pounds per hour
PM <sub>10</sub>	3.42 pounds per hour
CO	22.80 pounds per hour
Lead	0.11 pounds per hour



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-13**

**Applicability Of State Rules**

Air Quality Permit Program

1a) AQ Facility ID No.: 11100077

1b) AQ File No. 4297

2) Facility Name: Green Plains Otter Tail, LLC

Some businesses and activities in Minnesota are subject to the following rules. Read each question to determine if the rule applies to the equipment or processes you are installing or modifying. If so, be sure to include the rule in Form CD-01, if you are required to fill it out for this application.

**3) Minnesota Standards of Performance for Stationary Sources** (Minn. R. ch. 7011)

3a) Will you be installing or modifying equipment that meets the following definition?

"A furnace, boiler or other combustion equipment in Minnesota which burns fossil fuel for the purpose of producing steam, hot water, hot air, or other hot liquid, gas, or solid, where the smoke doesn't have direct contact with the heated medium for which another standard of performance has not been promulgated."

☒ No, my new or modified equipment **is not** subject to Minn. R. 7011.0500-7011.0551. Go to question 3b).

☐ Yes, Is or will the unit(s) be subject to a federal New Source Performance Standard (as identified on Form CH-05)?

☐ Yes, my new or modified equipment **is not** subject to Minn. R. 7011.0500-7011.0551. Go to question 3b).

☐ No, my new or modified equipment **is** subject to Minn. R. 7011.0500-7011.0551. Standards of Performance for Indirect Heating Fossil-Fuel Burning Equipment. (Read the rule to determine the specific requirements that apply.) List the subject unit(s):

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3b) Is your new or modified equipment type or process equipment found in Table 3 on page 7? This table contains only state-specific requirements; it does not contain state rules that incorporate federal rules by reference.

☒ No, none of the Minnesota Rules listed in Table 3 apply to my new or modified equipment. Go to question 4).

☐ Yes, my new or modified equipment may be subject to the rule associated with it in Table 3. Read the associated rule to see if it applies.

3c) After reading through Table 3 and any rule that may apply to your proposed change, list the ones that do apply in Table 1 (next page). Again, Table 3 contains only state-specific requirements; it does not contain state rules that incorporate federal rules by reference. You do not need to list the state rules that incorporate federal rules by reference. You do not need to list the Standards of Performance for Indirect Heating Fossil-Fuel Burning Equipment again, if it applies (see 3a, above).

**Table 1: New/Modified Equipment Subject to Minnesota Standards of Performance**

Emission Source ID Number	Minnesota Rule Part that Applies	What the Rule Part Applies to (Whole facility or Specific Piece of Equipment)

**4) Minnesota Acid Deposition Control (Minn. R. 7021.0050)**

- 4a) Does your facility generate electricity?  
☒ No. My facility is not subject to Acid Deposition Control Requirements. Go to question 5.  
☐ Yes. Go to question 4b).
- 4b) Does your facility contain indirect heating equipment with a rated heat input of more than 5,000 million BTUs per hour?  
☒ No. Go to question 4c).  
☐ Yes. My facility (and possibly my proposed change) is subject to Acid Deposition Control Requirements.
- 4c) If your facility is an electric utility, is the total generating capacity of all the electric generating facilities in Minnesota which are owned by your facility's parent company more than 1,000 megawatts?  
☒ No. My facility is not subject to Acid Deposition Control Requirements.  
☐ Yes. My facility (and possibly my proposed change) is subject to Acid Deposition Control Requirements.

**5) Standards of Performance for Industrial Process Equipment (Minn. R. 7011.0700 - 7011.0735)**

- 5a) Are you installing or modifying any industrial process equipment on-site that may generate any air contaminant in any amount and is not regulated by a federal New Source Performance Standard or MN Rules Standard of Performance?  
☐ Yes. List the units in Table 2, then go to item 5b).  
☒ No, my new or modified equipment is not subject to the Industrial Process Equipment rule. Go to question 6).
- 5b) **Opacity Standard**  
(Note: Opacity is a measure of visible emissions or how much of the view is obscured by stack emissions. The emissions causing opacity are often smoke or dust.)
- For industrial process equipment which was *in operation before July 9, 1969*, the equipment shall not exhibit greater than 20 percent opacity, except for one six-minute period per hour of not more than 60 percent opacity. An exceedance of this opacity standard occurs whenever any one-hour period contains two or more six-minute periods during which the average opacity exceeds 20 percent or whenever any one-hour period contains one or more six-minute periods during which the average opacity exceeds 60 percent.
  - For industrial process equipment which was *not in operation before July 9, 1969*, the equipment shall not exhibit greater than 20 percent opacity.
- 5c) Does any of the industrial process equipment you listed in Table 2 have particulate control equipment with a collection efficiency of at least 99 percent if it was in operation before July 9, 1969, or 99.7 percent if it was not in operation before July 9, 1969?  
☐ No. Go to question 5d).  
☐ Yes. These units are considered to be in compliance with the remaining requirements of this rule.
- For those units meeting this criterion which were in operation before July 9, 1969, complete Table 2 by checking the box labeled "Collection Efficiency > 99%."
  - For those units meeting this criterion which were not in operation before July 9, 1969, complete Table 2 by checking the box labeled "Collection Efficiency > 99.7%."
  - Then, if there are units listed in Table 2 which are not controlled by control equipment with a collection efficiency of 99% or 99.7% (as applicable), go on to question 5d).
- 5d) Has it been demonstrated that the operation of the entire facility in compliance with all ambient air quality standards? This is typically shown through some level of computer dispersion modeling.  
☐ Yes. Go to question 5e).  
☐ No. Skip to item 5i).
- 5e) Is the facility located outside of the seven county Minneapolis-St. Paul metropolitan region?  
☐ Yes. Go to question 5f)  
☐ No. Skip to item 5i).
- 5f) Is the facility located outside of the city of Duluth?  
☐ Yes. Go to question 5g).  
☐ No. Skip to item 5i).
- 5g) Is the facility located at least 1/4 mile from any residence or public roadway?  
☐ Yes. Go to question 5h).  
☐ No. Skip to item 5i).
- 5h) Answer this question individually for each remaining unit listed in Table 2 (those which were not identified in item 5c) as being controlled by control equipment having a control efficiency of 99% or 99.7% (as applicable)). Does the industrial process equipment have particulate control equipment with a collection efficiency of at least 85 percent?  
☐ Yes, the unit is considered to be in compliance with the remaining requirements of this rule. For each unit for which you can answer "yes" to question 5h), complete Table 2 by checking the box labeled "Outside MSP & Duluth, 1/4 mile from roads/residences, collection efficiency > 85%." Answer question 5h) for each remaining unit on Table 2.  
☐ No. For each unit for which you answered "No" to question 5h), complete Table 2 as described in item 5i). Then go to question 6).
- 5i) Complete Table 2 for all remaining industrial process equipment listed (those which were not identified in question 5c) as being controlled by control equipment having a control efficiency of 99% or 99.7% (as applicable)). Use Table 4 to determine the particulate limit in either pounds per hour (lb/hr) or grains per dry standard cubic foot (gr/dscf). Then go to question 6).

**Table 2: New/Modified Equipment Subject to Industrial Process Equipment Rule**

Equipment Subject to Industrial Process Equipment Rule (list EU number(s))	Applicable Particulate Limit
<div>_____ <input type="checkbox"/> In operation before July 9, 1969</div> <div>_____ <input type="checkbox"/> Not in operation before July 9, 1969</div>	<div><input type="checkbox"/> Collection Efficiency &gt; 99%</div> <div><input type="checkbox"/> Collection Efficiency &gt; 99.7%</div> <div><input type="checkbox"/> Outside MSP &amp; Duluth, ¼ mile from roads/residences, collection efficiency &gt; 85%</div> <div><input type="checkbox"/> _____ gr/dscf</div> <div><input type="checkbox"/> _____ lb/hr</div>
<div>_____ <input type="checkbox"/> In operation before July 9, 1969</div> <div>_____ <input type="checkbox"/> Not in operation before July 9, 1969</div>	<div><input type="checkbox"/> Collection Efficiency &gt; 99%</div> <div><input type="checkbox"/> Collection Efficiency &gt; 99.7%</div> <div><input type="checkbox"/> Outside MSP &amp; Duluth, ¼ mile from roads/residences, collection efficiency &gt; 85%</div> <div><input type="checkbox"/> _____ gr/dscf</div> <div><input type="checkbox"/> _____ lb/hr</div>
<div>_____ <input type="checkbox"/> In operation before July 9, 1969</div> <div>_____ <input type="checkbox"/> Not in operation before July 9, 1969</div>	<div><input type="checkbox"/> Collection Efficiency &gt; 99%</div> <div><input type="checkbox"/> Collection Efficiency &gt; 99.7%</div> <div><input type="checkbox"/> Outside MSP &amp; Duluth, ¼ mile from roads/residences, collection efficiency &gt; 85%</div> <div><input type="checkbox"/> _____ gr/dscf</div> <div><input type="checkbox"/> _____ lb/hr</div>
<div>_____ <input type="checkbox"/> In operation before July 9, 1969</div> <div>_____ <input type="checkbox"/> Not in operation before July 9, 1969</div>	<div><input type="checkbox"/> Collection Efficiency &gt; 99%</div> <div><input type="checkbox"/> Collection Efficiency &gt; 99.7%</div> <div><input type="checkbox"/> Outside MSP &amp; Duluth, ¼ mile from roads/residences, collection efficiency &gt; 85%</div> <div><input type="checkbox"/> _____ gr/dscf</div> <div><input type="checkbox"/> _____ lb/hr</div>
<div>_____ <input type="checkbox"/> In operation before July 9, 1969</div> <div>_____ <input type="checkbox"/> Not in operation before July 9, 1969</div>	<div><input type="checkbox"/> Collection Efficiency &gt; 99%</div> <div><input type="checkbox"/> Collection Efficiency &gt; 99.7%</div> <div><input type="checkbox"/> Outside MSP &amp; Duluth, ¼ mile from roads/residences, collection efficiency &gt; 85%</div> <div><input type="checkbox"/> _____ gr/dscf</div> <div><input type="checkbox"/> _____ lb/hr</div>
<div>_____ <input type="checkbox"/> In operation before July 9, 1969</div> <div>_____ <input type="checkbox"/> Not in operation before July 9, 1969</div>	<div><input type="checkbox"/> Collection Efficiency &gt; 99%</div> <div><input type="checkbox"/> Collection Efficiency &gt; 99.7%</div> <div><input type="checkbox"/> Outside MSP &amp; Duluth, ¼ mile from roads/residences, collection efficiency &gt; 85%</div> <div><input type="checkbox"/> _____ gr/dscf</div> <div><input type="checkbox"/> _____ lb/hr</div>
<div>_____ <input type="checkbox"/> In operation before July 9, 1969</div> <div>_____ <input type="checkbox"/> Not in operation before July 9, 1969</div>	<div><input type="checkbox"/> Collection Efficiency &gt; 99%</div> <div><input type="checkbox"/> Collection Efficiency &gt; 99.7%</div> <div><input type="checkbox"/> Outside MSP &amp; Duluth, ¼ mile from roads/residences, collection efficiency &gt; 85%</div> <div><input type="checkbox"/> _____ gr/dscf</div> <div><input type="checkbox"/> _____ lb/hr</div>
<div>_____ <input type="checkbox"/> In operation before July 9, 1969</div> <div>_____ <input type="checkbox"/> Not in operation before July 9, 1969</div>	<div><input type="checkbox"/> Collection Efficiency &gt; 99%</div> <div><input type="checkbox"/> Collection Efficiency &gt; 99.7%</div> <div><input type="checkbox"/> Outside MSP &amp; Duluth, ¼ mile from roads/residences, collection efficiency &gt; 85%</div> <div><input type="checkbox"/> _____ gr/dscf</div> <div><input type="checkbox"/> _____ lb/hr</div>
<div>_____ <input type="checkbox"/> In operation before July 9, 1969</div> <div>_____ <input type="checkbox"/> Not in operation before July 9, 1969</div>	<div><input type="checkbox"/> Collection Efficiency &gt; 99%</div> <div><input type="checkbox"/> Collection Efficiency &gt; 99.7%</div> <div><input type="checkbox"/> Outside MSP &amp; Duluth, ¼ mile from roads/residences, collection efficiency &gt; 85%</div> <div><input type="checkbox"/> _____ gr/dscf</div> <div><input type="checkbox"/> _____ lb/hr</div>



**6) Waste Combustors** (Minn. R. 7011.1201-7011.1290)

Note: Depending on the type of waste combustor you operate, you may be instructed to fill out one or more of the following forms:

- WC-01 -- Required if you determine that your waste combustor requires a permit.
- WC-02 -- Required if you install/operate a Class IV waste combustor at a hospital.
- WC-03 -- Required if you do not meet the stack height requirements of Minn. R. 7011.1235.

If after reading through the following section, you determine that you are required to fill out one or more of the WC forms, contact the Air Quality Permit Document Coordinator.

**6a) Are you proposing installing or modifying a waste combustor?**

"Waste Combustor" means any emissions unit or emission facility where mixed municipal solid waste, solid waste, or refuse-derived fuel is combusted, and includes incinerators, energy recovery facilities, or other combustion devices. A metals recovery incinerator is a waste combustor. A combustion device combusting primarily wood, or at least 70 percent fossil fuel and wood in combination with up to 30 percent papermill wastewater treatment plant sludge is not a waste combustor. A soil treatment facility, paint burn-off oven, wood heater, or residential fireplace is not a waste combustor.

"Wood" is defined as: wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including sawdust, sander dust, wood chips, wood scraps, slabs, millings, shavings, and processed pellets made from wood and other forest residues.

A facility that is co-firing Refuse Derived Fuel (RDF) or Municipal Solid Waste (MSW) at rates less than 30 percent by weight is not regulated as a waste combustor, but is regulated as a boiler.

- ☐ Yes, I am installing or modifying a waste combustor. Answer questions 6b through 6e to determine whether you are allowed to continue to operate, and what type of permit the waste combustor requires. Allowed waste combustors must obtain an air emissions permit.
- ☒ No, the facility equipment is not subject to this rule.

**6b) Is the waste combustor solely a crematory, pathological or an animal carcass incinerator?**

- ☐ Yes. It is subject to standards of performance in Minn. R. 7011.1215, subp. 3. The waste combustor is an insignificant activity that does not need to be reported.
- ☒ No, the facility equipment is not subject to this rule.

**6c) Is the design capacity of the waste combustor equal to or greater than 3 million Btu/hr?**

"Design capacity" means: the hourly throughput of the waste combustor unit based on heat input from solid waste to the combustion system as stated by the manufacturer or designer, based on accepted design and engineering practices. For a non-continuous feed system, design capacity means the total heat input from solid waste per cycle.

If you don't have a manufacturer's design capacity in terms of heat input, you may estimate heat input by the following formula:

$$H_{in} = (HHV) \times (R)$$

Where:

$H_{in}$  = Heat input rate

HHV = heat value of waste

R = waste input rate, in lb/hr, as defined by the manufacturer

Commercial/Retail/Institutional Wastes = 7000 Btu/lb

General Industrial Wastes = 9000 Btu/lb

Medical/Infectious Wastes = 10,000 Btu/lb

- ☐ Yes, the waste combustor has a design capacity of 3 million Btu/hr or greater. The waste combustor is subject to the standards of performance applicable to waste combustors. There are also additional permit application requirements for this unit, as described in Minn. R. 7007.0501, or 7011.1210. Complete form WC-01.
- ☐ No, the heat input rate is below 3 million Btu/hr. Go to question 6d.

**6d) Is the waste combustor used as a metal recover incinerator?**

"Metals recovery incinerator" means a furnace or incinerator used primarily to recover precious and non-precious metals by burning the combustible fraction from waste. An aluminum sweat furnace is not a metals recovery incinerator.

- ☐ Yes. The waste combustor is subject to the standards of performance applicable to waste combustors. There are also additional permit application requirements for this unit, as described in Minn. R. 7007.0501, or 7011.1210. Complete form WC-01.
- ☐ No. Go to question 6e).

- 6e) Is the waste combustor located at a hospital?
- ☐ Yes. The waste combustor is subject to the standards of performance applicable to Class IV waste combustors. There are also additional permit application requirements for this unit, as described in Minn. R. 7007.0501, or 7011.1210. Complete form WC-02 if the waste combustor will comply with all of the design, operating, and standards of performance in parts 7011.1201 to 7011.1290. Otherwise, an air emissions permit must be issued, and you must complete for WC-01. **[Please Note:** There are federal Standards of Performance that must also be met for new sources (see Form CH-05), and the state will be adopting more stringent standards for existing incinerators.]
- ☐ No, the waste combustor is not located at a hospital. The operation of this waste combustor was banned after January 30, 1996. Your compliance plan must contain specific steps to cease operation of this waste combustor.

**Table 3: Minnesota Standards of Performance for Stationary Sources\***

Facility or Equipment Type	Associated Minnesota Rule
Direct Heating Equipment	7011.0600 through 7011.0625
Concrete Manufacturing Plants	7011.0850 through 7011.0860
Stage One Vapor Recovery	7011.0865 through 7011.0870
Hot Mix Asphalt Plants	7011.0900 through 7011.0925
Bulk Agricultural Commodity Facilities (Grain Elevators)	7011.1000 through 7011.1015
Coal Handling Facilities	7011.1100 through 7011.1140
Incinerators (waste combustors)	7011.1201 through 7011.1285
Petroleum Refineries	7011.1400 through 7011.1430
Liquid Petroleum and Volatile Organic Compounds (VOCs) Storage Vessels	7011.1500 through 7011.1515
Sulfuric Acid Plants	7011.1600 through 7011.1630
Nitric Acid Plants	7011.1700 through 7011.1725
Brass and Bronze Plants	7011.1900 through 7011.1915
Iron and Steel Plants	7011.2000 through 7011.2015
Inorganic Fibrous Materials	7011.2100 through 7011.2105
Stationary Internal Combustion Engine (Generators)	7011.2300
Municipal Solid Waste Landfills	7011.3500 through 7011.3510
Asbestos	7011.9921 through 7011.9927

\* This table does not include Minnesota Rules which incorporate federal New Source Performance Standards (NSPS) or National Emission standards for Hazardous Air Pollutant Sources (NESHAPS) by reference.

**Table 4: Instructions for determining your particulate limit**

Minnesota has a State rule for the concentration of particulate matter that may be in your exhaust stream. The unit of the standard is grains per dry standard cubic foot. You need to convert your actual exhaust flow to dry standard cubic feet per minute to find the emission limit from the rule.

Sources subject to this rule are required to meet the emission limits established at all times. These limits will vary depending on operating conditions. To determine compliance at any point in time (i.e. for a stack test), follow the steps below:

1. Determine the amount of dry material (subtract any water or moisture content) in pounds per hour that is processed by your equipment.
2. Use Table 4.1 to determine your allowed emission rate based on process weight rate. If your process weight rate falls between two values on the table, interpolate or extrapolate using the equation:

$$E = 3.59 \times \left( \frac{P}{2000} \right)^{0.62} \quad \text{for} \quad P \leq 60,000 \text{ lbs/hour; and:}$$

$$E = 17.31 \times \left( \frac{P}{2000} \right)^{0.16} \quad \text{for} \quad P > 60,000 \text{ lbs/hour}$$

where: E = emission rate in lbs/hour; and  
P = process weight rate in lbs/hour

3. If your process equipment is vented to the atmosphere, determine the airflow through your stack. Correct to 68 F and 14.7 psi, and correct to remove any moisture in the gas stream to obtain the air flow in dry standard cubic feet per minute (dscfm).



# Minnesota Pollution Control Agency

AIR QUALITY  
520 LAFAYETTE ROAD  
ST. PAUL, MN 55155-4194

PERMIT APPLICATION FORM **GI-05D**  
**FUGITIVE EMISSION**  
**SOURCE INFORMATION**  
07/25/05

1) AQ Facility ID No.: 1110077 2) Facility Name: 4297

3a) Fugitive Source ID No.	3b) Pollutant Emitted (particulate matter (PM) or VOC)	3c) Control Equip ID No.	3d) Description of Fugitive Emission Source
FS007	PM	NA	Temporary Flat Storage



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

**CH-14**

**Permit Amendment Application Requirements**

Air Quality Permit Program

*Doc Type: Permit Application*

**Instructions on Page 3**

1a) AQ Facility ID No.: 1110077 1b) AQ File No.: 4297

2) Facility Name: Green Plains Otter Tail

3) Minn. R. 7007.0600 describes what a permit application must include. The items in the following list constitute an administratively complete application, but do not necessarily mean that the application is technically complete for the purpose of taking final permit action. Please complete the following to verify that you have included all the indicated forms and information.

Included	Not Included	Form/Requirement	When Required
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	SCP-01 Submittal Cover Page	Always
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CH-GI-01 Facility Information	Always
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CH-15 SIP Changes and Permits	Always
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CH-00 Project Screening	Always
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CH-01 Change Description	Always
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CH-02 Action Type Determination	Always
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CH-14 Permit Amendment Application Requirements	Always
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CH-03 Major Permit Amendment Determination	For all applications for a major, moderate, or minor amendment
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CH-04 Determination of New Source Review Status	For all applications for a major, moderate, or minor amendment
<input type="checkbox"/>	<input checked="" type="checkbox"/>	CH-04a Determination of Increases at Major Sources	As directed on Form CH-04
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CH-04b Determination of Increases as Non-Major Sources	As directed on Form CH-04
<input type="checkbox"/>	<input checked="" type="checkbox"/>	BACT analysis	When the proposed change or modification is major under NSR
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CH-05 Applicability of New Source Performance Standards (NSPS)	For all applications for a major, moderate, or minor amendment
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Highlighted copy of applicable subpart(s) 40 CFR Part 60	When so indicated on CH-05
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CH-06 Applicability of Part 61 NESHAP	For all applications for a major, moderate, or minor amendment
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Highlighted copy of applicable subpart(s) 40 CFR Part 61	When so indicated on CH-06
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CH-07 Applicability of Part 63 NESHAP	For all applications for a major, moderate, or minor amendment
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Highlighted copy of applicable subpart(s) 40 CFR Part 63	When so indicated on CH-07
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CH-11 Crossing Permit Thresholds	For all applications for a major, moderate, or minor amendment
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CH-13 Applicability of State Rules	For all applications for a major, moderate, or minor amendment
<input type="checkbox"/>	<input checked="" type="checkbox"/>	CD-01 Compliance Plan	For all applications for a major, moderate, or minor amendment
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GI-07 Facility Emissions Summary	For all applications for a major, moderate, or minor amendment, except if no emission calculations are required

Included	Not Included	Form/Requirement	When Required
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Electronic spreadsheet containing all calculations	Whenever the proposed change or modification involves changes to emissions. May submit CD with application, or be prepared to email to MPCA staff upon request – indicate choice on GI-07
<input type="checkbox"/>	<input checked="" type="checkbox"/>	HG-01 Mercury Releases to Ambient Air	When increasing Hg emissions from taconite production secondary metal production, fuel combustion for electricity generation or industrial boilers, or incinerators
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GI-09H Requirements: CAM	When adding or changing control equipment or controlled emission units at a Part 70 source
<input type="checkbox"/>	<input checked="" type="checkbox"/>	CAM Plan	When indicated on GI-09H
<input type="checkbox"/>	<input checked="" type="checkbox"/>	EMS-00 EMS Permit Qualification	When proposing to incorporate Environmental Management System (EMS) provisions
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CH-10 Applicability of Minor or Moderate Amendment Process	When applying for a moderate or minor amendment
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CH-08 Administrative Amendment Determination	When applying for an administrative amendment
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CH-09 Contravening Permit Terms	When proposing contravening permit terms
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CH-12 Written Notification Form	When proposing contravening permit terms or other changes that do not require a permit amendment
<input type="checkbox"/>	<input checked="" type="checkbox"/>	IA-01 Insignificant Activities List	When the proposed change or modification includes changes to insignificant activities
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GI-02 Process Flow Diagram	When the proposed change or modification includes changes to the process flow, including removing or adding new emission units, control devices, stacks/vents, tanks, or fugitive sources
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Separate sheet showing revised process flow	When the process flow diagram is not drawn directly on Form GI-02
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GI-03 Facility and Stack/Vent Diagram	When proposed change or modification includes changes to the stack/vent diagram, including removing or relocating existing stack/vents, or adding new stack/vents
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Separate sheet showing revised stack/vent diagram	When the stack/vent diagram is not drawn directly on Form GI-03
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GI-04 Stack/Vent Information	When adding or changing stack/vents
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GI-05A Pollution Control Equipment Information	When adding or changing control equipment
<input type="checkbox"/>	<input checked="" type="checkbox"/>	CD-05 Compliance Plan for Control Equipment	When adding or changing control equipment
<input type="checkbox"/>	<input checked="" type="checkbox"/>	HE-01 Hood Evaluation	When adding or changing control equipment that does not collect through a total enclosure
<input type="checkbox"/>	<input checked="" type="checkbox"/>	CR-02 Hood Certification	When adding or changing control equipment that does not collect through a total enclosure
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GI-05B Emission Unit Information	When adding or changing emission units
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GI-05C Tank Information	When adding or changing storage tanks
<input checked="" type="checkbox"/>	<input type="checkbox"/>	GI-05D Fugitive Emission Source Information	When adding or changing fugitive sources
<input type="checkbox"/>	<input checked="" type="checkbox"/>	ME-01 Continuous Monitoring System Information	To describe new, removed, or changed continuous monitoring systems
<input type="checkbox"/>	<input checked="" type="checkbox"/>	PAL-01 PAL Cover Page	When requesting a new Plantwide Applicability Limit (PAL) under NSR
<input type="checkbox"/>	<input checked="" type="checkbox"/>	PAL-02 Determination of Plantwide Applicability Limit for Major NSR Sources	When requesting a new Plantwide Applicability Limit (PAL) under NSR
<input type="checkbox"/>	<input checked="" type="checkbox"/>	MI-02c Modeling for Plantwide Applicability Limitations	When requesting a new Plantwide Applicability Limit (PAL) under NSR

## Temporary Flat Storage (FS007) Emission Calculations

**Green Plains Otter Tail, LLC**

**Limited Potential to Emit Emissions @ 65.0 million gallons ethanol production**

Stack/	Control	Emission		Criteria Pollutants (Limited Emissions)							HAP Emissions	
Vent	Eq.	Unit	Emission Sources Associated with	PM	PM10	PM2.5	SO2	NOx	VOC	CO	HAP (Single) Acetaldehyde	HAP (Total)
ID	ID	ID	Ethanol Operations	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)
---	---	EU001	Corn Dump Pit/Auger#1	CE001	CE001	CE001	---	---	---	---	---	---
---	---	EU002	Corn Conveyor#1	CE001	CE001	CE001	---	---	---	---	---	---
---	---	EU003	Corn Elevator#1	CE001	CE001	CE001	---	---	---	---	---	---
---	---	EU004	Corn Dump Pit/Auger#2 <sup>FN1</sup>	CE001	CE001	CE001	---	---	---	---	---	---
---	---	EU005	Corn Conveyor#2	CE001	CE001	CE001	---	---	---	---	---	---
---	---	EU006	Corn Elevator#2	CE001	CE001	CE001	---	---	---	---	---	---
---	---	EU007	Transfer Conveyor#1	CE001	CE001	CE001	---	---	---	---	---	---
SV001	CE001	---	Grain Receiving Baghouse	13.89	13.89	13.89	---	---	---	---	---	---
---	---	EU008	Scalper	CE008	CE008	CE008	---	---	---	---	---	---
---	---	EU009	Reclaim System	CE008	CE008	CE008	---	---	---	---	---	---
---	---	EU010	Grinder Surge Bin	CE008	CE008	CE008	---	---	---	---	---	---
---	---	EU011	Hammermill#1	CE008	CE008	CE008	---	---	---	---	---	---
---	---	EU012	Hammermill#2	CE008	CE008	CE008	---	---	---	---	---	---
---	---	EU055	Hammermill #3	CE008	CE008	CE008	---	---	---	---	---	---
SV008	CE008	---	Hammermill Baghouse	8.94	8.94	8.94	---	---	---	---	---	---
---	---	EU013	DDGS Storage Reclaim	CE011	CE011	CE011	---	---	---	---	---	---
---	---	EU014	Bulkweigher	CE011	CE011	CE011	---	---	---	---	---	---
---	---	EU015	DDGS Conveyor	CE011	CE011	CE011	---	---	---	---	---	---
---	---	EU016	DDGS Load Spout	CE011	CE011	CE011	---	---	---	---	---	---
SV011	CE011	---	DDGS Loadout Baghouse	1.80	1.80	1.80	---	---	---	---	---	---
SV012	CE012	EU017	Cooling Tower Cell#1	3.65	3.65	3.65	---	---	---	---	---	---
SV013	CE013	EU018	Cooling Tower Cell#2	3.65	3.65	3.65	---	---	---	---	---	---
SV014	CE014	EU019	Cooling Tower Cell#3	3.65	3.65	3.65	---	---	---	---	---	---
FS001	(CE001)	(EU001, EU004)	Grain Receiving Fug.	2.38	0.53	0.09	---	---	---	---	---	---
FS002	(CE011)	(EU016)	DDGS Loadout Fug.	0.18	0.04	0.04	---	---	---	---	---	---
FS003	(CE011)	(EU013)	DDGS Storage Fug.	0.53	0.13	0.13	---	---	---	---	---	---
FS004	CE020	EU025	Truck Traffic	16.51	3.22	0.48	---	---	---	---	---	---
SV020	CE021	EU026	Fire Pump (test only)	0.20	0.20	0.20	0.11	1.03	0.03	0.05	neg	neg
SV021A/B	CE022	EU027	Emergency Generator (250hrs)	0.05	0.05	0.05	0.00	3.02	0.15	0.20	neg	neg
SV022	CE023	EU028	Boiler#1	2.93	2.93	2.93	0.23	20.24	2.12	18.21	neg	0.73
SV023	CE024	EU029	Boiler#2	2.93	2.93	2.93	0.23	20.24	2.12	18.21	neg	0.73
SV024	CE025	EU030	Dedicated Fleet EtOH Loadout	(FN2)	(FN2)	(FN2)	(FN2)	(FN2)	18.92	(FN2)	neg	0.40



---	---	EU031	Non-dedicated Fleet EtOH Loadout	---	---	---	---	---	CE026	---	CE026	CE026
SV025	CE026	EU032	Loadout Flare	0.01	0.01	0.01	neg	0.57	(FN2)	1.34	(FN2)	(FN2)
---	---	EU033	Yeast Tank	---	---	---	---	---	CE027	---	CE027	CE027
---	---	EU034	Fermenter#1	---	---	---	---	---	CE027	---	CE027	CE027
---	---	EU035	Fermenter#2	---	---	---	---	---	CE027	---	CE027	CE027
---	---	EU036	Fermenter#3	---	---	---	---	---	CE027	---	CE027	CE027
---	---	EU037	Fermenter#4	---	---	---	---	---	CE027	---	CE027	CE027
---	---	EU038	Beerwell	---	---	---	---	---	CE027	---	CE027	CE027
SV026	CE027	---	CO2 Scrubber	---	---	---	---	---	49.41	---	6.20	6.37
---	---	EU039	Liquefaction Tank	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU040	Beer Stripper	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU041	Side Stripper	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU042	Rectifier	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU043	Molecular Sieve	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU044	Evaporator	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU045	Centrifuge#1	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU046	Centrifuge#2	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU047	Centrifuge#3	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU048	Centrifuge#4	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU049	Centrate Tank	---	---	---	---	---	CE028	---	CE028	CE028
SV027	CE028	---	Vent Gas Scrubber	---	---	---	---	---	7.62	---	0.28	0.30
---	CE029	EU050	DDGS Dryer	CE030	CE030	CE030	---	---	CE030	CE030	CE030	CE030
---	---	EU051	DDGS Cooler	CE030	CE030	CE030	---	---	CE030	CE030	CE030	CE030
SV028	CE030	EU052	RTO	22.57	22.57	22.57	13.13	49.56	4.86	56.54	2.50	3.85
FS005	CE031	EU053	Equipment Leaks	---	---	---	---	---	8.43	---	---	---
FS006	CE032	EU054	Wetcake (AOS)	---	---	---	---	---	(FN3)	---	(FN3)	(FN3)
FS007	---	---	Temporary Flat Storage	0.49	0.13	0.02	---	---	---	---	---	---
SV029	CE033	TK001	200 Proof Tank	---	---	---	---	---	0.16	---	neg	neg
SV030	CE034	TK002	200 Proof Tank	---	---	---	---	---	0.16	---	neg	neg
SV031	CE035	TK003	Denaturant Storage Tank	---	---	---	---	---	0.69	---	neg	0.0131
SV032	CE036	TK004	Denatured Ethanol Tank#1	---	---	---	---	---	0.15	---	neg	0.0007
SV033	CE037	TK005	Denatured Ethanol Tank#2	---	---	---	---	---	0.15	---	neg	0.0007
TOTALS				84.3	68.3	65.0	13.7	94.7	95.0	94.6	9.0	12.4
Total Facility Emission Originally Permitted				83.9	68.2	65.0	13.7	94.7	95.0	94.6	9.0	12.4
Emission Change due to the Modification				0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(FN1) Corn Dump Pit #2 has two openings (one for truck and one for rail) grain may be removed from only one opening at a time due the physical limitations of the conveyor. There are less emissions associated with rail receiving than with truck receiving therefore the potential emissions remain based on truck receiving only.

(FN2) Product (denatured Ethanol) occurs to either of two scenarios. Loading to a dedicated fleet (carry only denatured ethanol) or loading to a non-dedicated fleet (may have previously carried gasoline. Dedicated Fleet loadout is not flared. Non-dedicated loadout is flared. Potential to emit is based on worst case emissions from either scenario. Dedicated fleet loadout is worst case for VOC, Non-dedicated is worst case for PM, NOx and CO due to use of a flare.

(FN3) FS006 Wetcake (AOS) is an alternate operating scenario that is not worst case for emissions therefore does not contribute to facility Potential to Emit.



**Green Plains Otter Tail, LLC**  
**Projected Actual Emissions @ 65.0 million gallons ethanol production**

Stack/ Control Emission				Criteria Pollutants (Limited Emissions)							HAP Emissions	
Vent	Eq.	Unit	Emission Sources Associated with	PM	PM10	PM2.5	SO2	NOx	VOC	CO	HAP (Single) Acetaldehyde	HAP (Total)
ID	ID	ID	Ethanol Operations	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)
---	---	EU001	Corn Dump Pit/Auger#1	CE001	CE001	CE001	---	---	---	---	---	---
---	---	EU002	Corn Conveyor#1	CE001	CE001	CE001	---	---	---	---	---	---
---	---	EU003	Corn Elevator#1	CE001	CE001	CE001	---	---	---	---	---	---
---	---	EU004	Corn Dump Pit/Auger#2	CE001	CE001	CE001	---	---	---	---	---	---
---	---	EU005	Corn Conveyor#2	CE001	CE001	CE001	---	---	---	---	---	---
---	---	EU006	Corn Elevator#2	CE001	CE001	CE001	---	---	---	---	---	---
---	---	EU007	Transfer Conveyor#1	CE001	CE001	CE001	---	---	---	---	---	---
---	---	EU008	Transfer Conveyor#2	CE001	CE001	CE001	---	---	---	---	---	---
SV001	CE001	---	Grain Receiving Baghouse#1	1.39	1.39	1.39	---	---	---	---	---	---
---	---	EU009	Reclaim System	CE008	CE008	CE008	---	---	---	---	---	---
---	---	EU010	Ginder Surge Bin	CE008	CE008	CE008	---	---	---	---	---	---
---	---	EU011	Hammermill#1	CE008	CE008	CE008	---	---	---	---	---	---
---	---	EU012	Hammermill#2	CE008	CE008	CE008	---	---	---	---	---	---
---	---	EU055	Hammermill #3	CE008	CE008	CE008	---	---	---	---	---	---
SV008	CE008	---	Hammermill Baghouse	0.89	0.89	0.89	---	---	---	---	---	---
---	---	EU013	DDGS Storage Reclaim	CE011	CE011	CE011	---	---	---	---	---	---
---	---	EU014	Bulkweigher	CE011	CE011	CE011	---	---	---	---	---	---
---	---	EU015	DDGS Conveyor	CE011	CE011	CE011	---	---	---	---	---	---
---	---	EU016	DDGS Load Spout	CE011	CE011	CE011	---	---	---	---	---	---
SV011	CE011	---	DDGS Loadout Baghouse	0.18	0.18	(FN4)	---	---	---	---	---	---
SV012	CE012	EU017	Cooling Tower Cell#1	0.96	0.96	(FN4)	---	---	---	---	---	---
SV013	CE013	EU018	Cooling Tower Cell#2	0.96	0.96	(FN4)	---	---	---	---	---	---
SV014	CE014	EU019	Cooling Tower Cell#3	0.96	0.96	(FN4)	---	---	---	---	---	---
FS001	(CE001, CE002)	(EU001, EU004)	Grain Receiving Fug.	2.38	0.53	(FN4)	---	---	---	---	---	---
FS002	(CE011)	(EU016)	DDGS Loadout Fug.	0.18	0.04	(FN4)	---	---	---	---	---	---
FS003	(CE009)	(EU013)	DDGS Storage Fug.	0.53	0.13	(FN4)	---	---	---	---	---	---
FS004	CE020	EU025	Truck Traffic	16.51	3.22	0.48	---	---	---	---	---	---
SV020	CE021	EU026	Fire Pump (test only) (@0%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SV021	CE022	EU027	Emergency Generator (@0%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SV022	CE023	EU028	Boiler#1 (@75%)	2.20	2.20	2.20	0.17	12.14	1.59	11.23	neg	0.55
SV023	CE024	EU029	Boiler#2 (@75%)	2.20	2.20	2.20	0.17	12.14	1.59	11.23	neg	0.55
SV024	CE025	EU030	Dedicated Fleet EtOH Loadout (50% use)	(FN1)	(FN1)	(FN1)	(FN1)	(FN1)	9.46	(FN1)	neg	0.20
---	---	EU031	Non-dedicated Fleet EtOH Loadout	---	---	---	---	---	CE026	---	CE026	CE026

SV025	CE026	EU032	Loadout Flare (50% use)	0.005	0.005	0.005	neg	0.29	2.62	0.67	neg	0.05
---	---	EU033	Yeast Tank	---	---	---	---	---	CE027	---	CE027	CE027
---	---	EU034	Fermenter#1	---	---	---	---	---	CE027	---	CE027	CE027
---	---	EU035	Fermenter#2	---	---	---	---	---	CE027	---	CE027	CE027
---	---	EU036	Fermenter#3	---	---	---	---	---	CE027	---	CE027	CE027
---	---	EU037	Fermenter#4	---	---	---	---	---	CE027	---	CE027	CE027
---	---	EU038	Beerwell	---	---	---	---	---	CE027	---	CE027	CE027
SV026	CE027	---	CO2 Scrubber (average data)	---	---	---	---	---	11.81	---	2.09	2.18
---	---	EU039	Liquefaction Tank	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU040	Beer Stripper	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU041	Side Stripper	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU042	Rectifier	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU043	Molecular Sieve	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU044	Evaporator	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU045	Centrifuge#1	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU046	Centrifuge#2	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU047	Centrifuge#3	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU048	Centrifuge#4	---	---	---	---	---	CE028	---	CE028	CE028
---	---	EU049	Centrate Tank	---	---	---	---	---	CE028	---	CE028	CE028
SV027	CE028	---	Vent Gas Scrubber (average data)	---	---	---	---	---	1.89	---	0.06	0.07
---	CE029	EU050	DDGS Dryer	CE030	CE030	CE030	---	---	CE030	CE030	CE030	CE030
---	---	EU051	DDGS Cooler	CE030	CE030	CE030	---	---	CE030	CE030	CE030	CE030
SV028	CE030	EU052	RTO (average data)	9.32	9.32	9.32	6.57	27.99	14.56	42.28	0.71	1.45
FS005	CE031	EU053	Equipment Leaks (FN3) (@50%)	---	---	---	---	---	4.21	---	---	---
FS006	CE032	EU054	Wetcake (AOS)	---	---	---	---	---	(FN2)	---	(FN2)	(FN2)
FS007	---	---	Temporary Flat Storage	0.49	0.13	0.02	---	---	---	---	---	---
SV029	CE033	TK001	200 Proof Tank	---	---	---	---	---	0.16	---	neg	neg
SV030	CE034	TK002	200 Proof Tank	---	---	---	---	---	0.16	---	neg	neg
SV031	CE035	TK003	Denaturant Storage Tank	---	---	---	---	---	0.69	---	neg	0.0131
SV032	CE036	TK004	Denatured Ethanol Tank#1	---	---	---	---	---	0.15	---	neg	0.0007
SV033	CE037	TK005	Denatured Ethanol Tank#2	---	---	---	---	---	0.15	---	neg	0.0007
TOTALS				39.1	23.1	16.5	6.9	52.6	49.1	65.4	2.9	5.1
Regulatory Caps				100.0	100.0	100.0	100.0	100.0	100.0	100.0	10.0	25.0

"Projected Actual" Emission Estimates are estimates of actual emissions predicted by some reasoned basis or based on average data. These estimates serve no regulatory purpose and are only provided because MPCA staff have suggested they are useful.

(FN1) Product (denatured Ethanol) occurs to either of two scenerios. Loading to a dedicated fleet (carry only denatured ethanol) or loading to a non-dedicated fleet (may have previously carried gasoline. Dedicated Fleet loadout is not flared. Non-dedicated loadout is flared. Projected Actual is based on equal use of each scenerio. Dedicated fleet loadout is worst case for VOC, Non-dedicated is worst case for PM, NOx and CO due to use of a flare.

(FN2) FS006 Wetcake (AOS) is an alternate operating scenerio that is not worst case for emissions therefore does not contribute to facility Potential to Emit.

(FN3) Equipment Leak emission factors are most applicable to gasoline-like operations such as refineries. It is assumed that these factors overestimate emissions at a fuel ethanol plant by at least a factor of 2.

(FN4) There is no data about PM2.5 underlying the PTE estimates. The PM2.5 = PM10 assumption is likely a very bad one and actual PM2.5 emissions are likely very



**Green Plains Otter Tail, LLC**  
Temporary Flat Storage

Assumptions:

- Corn will be added to the pile to during the harvest season and removed as space becomes available in the elevators
- Pile is at maximum capacity (1,000,000 bushels or 28,000 tons) after filling
- Maximum particulate emissions will occur during filling
- Pile will be filled in 70 hours (approximately 15,000 bu/hr)
- Pile will have a tarp cover in place year round, but no control is assumed for this calculation

$$E = k (0.0032) \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} \quad \text{Equation 1}$$

E = emission factor (lb/ton)

k = particle size multiplier

U = mean wind speed (mph)

M = material moisture content (%)

k = 1 for TSP

0.35 for PM10

0.053 for PM2.5

U = 12.2 mph (based on Fargo, ND data)

M = 4.8 %<sup>1</sup> (AP-42 Table 13.2.4-1)

<sup>1</sup> Actual material moisture content is typically 13-16%, but the maximum range of sources used to generate the equation was 4.8% and was used instead.

Emissions Activity	Throughput (tons)	Emission Factor (lb/ton)			Average Uncontrolled Emissions (lb/yr)		
		PM	PM10	PM2.5	PM	PM10	PM2.5
Truck to Elevator	28,000	0.0030	0.0010	0.0002	83.87	29.36	4.45
Elevator to Pile	28,000	0.0030	0.0010	0.0002	83.87	29.36	4.45
Vents	28,756	0.0250	0.0063	0.0011	718.90	181.16	31.63
Pile to Truck	28,000	0.0030	0.0010	0.0002	83.87	29.36	4.45
Total lbs/year					970.52	269.23	44.97
Annual Average Lbs/hr					0.111	0.031	0.005
"Worst Case" Filling Activities Lbs/hr					2.396	0.839	0.127
Unloading Activities Lbs/hr					0.092	0.024	0.004